



May 14, 2013

Mr. Randy Watterworth
Ohio Environmental Protection Agency SWDO
401 East Fifth Street
Dayton, OH 45402

Reference: **Ohio EPA Contract CSP900211 Mobilization Order (MO) #TT13-03
Monitoring Well Installation – Mullins Rubber Products
Riverside, Montgomery County, Ohio**

Subject: Final Report

Dear Mr. Watterworth

Under the above-referenced contract and mobilization order (MO) the Ohio Environmental Protection Agency (Ohio EPA) tasked Tetra Tech EM Inc. (Tetra Tech) to conduct soil boring and monitoring well installation activities at the Mullins Rubber Products site in Riverside, Montgomery County, Ohio. The scope of work was specified under MO TT-13-02 in November, 2012. Ohio EPA subsequently modified the project scope and issued a revised MO (TT-13-03) in January 2013. The scope of and procedures for MO TT-13-03 was revised through discussion with Ohio EPA in January and February 2013, and a final Site-Specific Work Plan (SSWP) was submitted to Ohio EPA on February 28, 2013. The SSWP was approved on March 2, 2013.

The SSWP encompassed the activities required to complete the scope of work indicated in the MO. The SSWP included:

- Descriptions of the procedures to complete the required scope of work
- A health and safety plan (HSP) addressing project activities
- Estimates of the timeframes for completing tasks, allocation of work hours, equipment, and personnel
- Itemized estimates of the cost of work

The following sections summarize the work completed.

SITE DESCRIPTION AND PROJECT OBJECTIVES

The Subject Property is the Mullins Rubber Products (Mullins) property, which is an approximately 3.3- acre parcel of land located at 2949 Valley Pike in Riverside, Montgomery County, Ohio, 45404. Soil borings, groundwater sampling, and monitoring well installation activities were conducted to support the Ohio EPA's investigation into the source of groundwater chlorinated volatile organic compounds (VOCs), the on-site

and off-site extent of groundwater contamination, and the installation of permanent monitoring well to determine the direction of groundwater flow in the shallow saturated zone.

The scope of work included the following:

- Complete up to seventeen soil borings in the upper aquifer and conduct vertical aquifer sampling (VAS) from two horizons at each location
- Install and develop shallow groundwater monitoring wells in four of the borings
- Collect subsurface samples at locations for the purpose of identifying lithology
- Coordinate disposal of investigation derived waste (IDW)

SUMMARY OF FIELD ACTIVITIES

Between March 18 and March 29, 2013, Tetra Tech installed a total of eighteen soil borings and four monitoring wells at the site. Fourteen soil borings (with one converted to a monitoring well) were placed on the Mullins site and four (three converted to monitoring wells) were placed off-site. The boring and monitoring well locations are shown on the Figures 1 and 2 (attached). Drilling and well installation techniques were performed to the procedures and specifications described in the Revised Ohio EPA Supplemental Expanded Site Inspection (SESI) work plan which was provided with revised MO TT13-03.

During the placement of the soil borings, groundwater samples were collected from an upper and lower water bearing zone and analyzed on site by Ohio EPA personnel using the Ohio EPA mobile laboratory gas chromatograph (GC). Selected groundwater samples were selected and analyzed by an off-site analytical laboratory for quality assurance/quality control (QA/QC). Prior to this investigation, three monitoring wells (MW-1, MW-2, and MW-3) were placed on the Mullins site.

Soil boring and monitoring well locations and modification to the specifications for the borings/monitoring wells and the drilling, well installation, and sampling were determined by on-site Ohio EPA Senior Site Coordinator (SSC) Randy Watterworth.

The following sections provide a summary of the field activities. Monitoring well installation diagrams, boring logs, and copies of the QA/QC laboratory analytical reports conducted for of the Ohio EPA mobile laboratory GC results are included in Attachments 1 and 2.

Soil Borings and Monitoring Well Installation

Prior to commencing drilling activities, Tetra Tech contacted the Ohio Utilities Protection Service (OUPS) and Base Engineering at Wright Patterson Air Force Base (WPAFB) to confirm that boring locations were clear of underground utilities. In addition, on March

12, 2013 each proposed location was cleared using ground-penetrating radar provided by a private utilities location service (Geosearches Inc.). Tetra Tech and its drilling contractor (Jersey West Drilling) mobilized to the site on March 18 and commenced drilling activities. Vicky Farmer was the Tetra Tech on-site project manager and supervised subcontractor field activities.

The scope of work called for soil borings to be advanced to a deep clay layer at an approximate depth of 45 to 50 feet below ground surface (BGS) using direct push technologies (DPT) drilling methods. Soil samples were collected in two borings to determine soil lithology and water bearing zones. In the first soil boring location, SB-1 on the northwest corner of the site, an extremely dense glacial till deposit was encountered at approximately 30 feet to 40 feet bgs. Because of the difficulty for the DPT method to penetrate this dense layer, solid flight auger tools were used to advance through the dense layer. Soil borings on the northwest and northeast portion of the site (SB-2, SB-3, SB-4, SB-5, SB-6, SB-14 and SB-17) were completed by auguring to 30 feet bgs and using the DPT method to the deep clay layer. However, soil borings placed in the southeast portion of the site (SB-2, SB-10, SB-13, SB-15, SB-16, and SB-18) were completed using the DPT method.

Subsurface soil samples were continuously collected in four-foot intervals at two borings - SB1 and SB8; soil samples were not collected in the remaining borings. Soil cuttings from each boring were temporarily stored in 55-gallon drums for later disposal.

Borings were advanced to the top of the deep clay layer at depths ranging between 37 feet bgs (SB-11) to 56 feet bgs (SB-1) as shown in Table 1. Groundwater samples were collected from two water bearing zones in most borings as shown in Table 1. During this investigation, one on-site soil boring (SB-1) was converted to a monitoring well (MW-1R) and three off-site soil borings were converted to monitoring wells; SB-8 (MW-3), SB-9 (MW-5), and SB-11 (MW-6). MW1-R was completed adjacent to MW-1, which is a perched well and does not produce water. Because of down-hole problems (broken and lost drilling rods) encountered during the drilling SB-6 and SB-11 and because MW-2 is near SB-6 and SB-11 was converted to MW-6, no groundwater samples were collected from these borings. Also, no upper water bearing zone was encountered in SB-2; therefore, no deep water sample was collected.

Groundwater samples were collected through a screened inner casing that was exposed between four and five feet in the upper and lower water bearing zones. The borings were advanced to the deep clay layer, based on soil lithology collected from selected borings, and groundwater samples were collected using a bladder pump and dedicated tubing. Upon completion of the boring, the lower groundwater water samples were collected immediately above the deep clay layer then the casing was then retracted approximately 10 feet, and a second groundwater sample was taken in the upper water

bearing zone. A summary of total depths and groundwater sample depths is provided in Table 1, below:

Table 1 – Summary of Soil Boring and Sample Depths

Boring	Total Depth	Lower Sample Depth	Upper Sample Depth
SB-1	56'	47-52'	32-37'
SB-2	48'	37-42'	NS
SB-3	52'	47-52'	32-37'
SB-4	46'	44-46'	32-34'
SB-5	52'	48-52'	32-35.5'
SB-6	52'	NS	NS
SB-7	52'	47-52'	32-37'
SB-8	45'	32-37'	NS
SB-9	52'	42-47'	32-37'
SB-10	52'	47-52'	32-37'
SB-11	37'	NS	NS
SB-12	52'	48-52'	32-36'
SB-13	43'	39-43'	25-29'
SB-14	51.5'	47.5-51.5'	32-36'
SB-15	51'	48-51'	32-35'
SB-16	45'	41-45'	24-28'
SB-17	52'	47.5-51.5'	31.5-35.5'
SB-18	46.5'	41.5-46.5'	32-36'

Groundwater samples were collected using a bladder pump with dedicated disposable tubing by Ohio EPA field staff. Tetra Tech collected split samples at eight locations (SB-1 upper and lower zones, SB-2 upper -zone, SB-3 upper zone, SB-7 upper and lower zones, and SB-14 upper and lower zones). These samples were delivered to ALS laboratory in Cincinnati for QA/QC samples and analyzed within a 24-hour turn-around time.

Monitoring wells were installed in soil borings SB-1 (MW-1R), SB-8 (MW-4), SB-9 (MW-5), and SB-11 (MW-6). The wells were constructed of Schedule-40, 2-inch inside-diameter, flush-threaded polyvinyl chloride (PVC) riser pipe with a 0.010-inch PVC slotted screen. As requested by Ohio EPA, 5-foot long screens were used at each location. Construction methods were similar at each location. The well screen was attached to the riser pipe and lowered to the bottom of the borehole. A silica sand (Global #5 sand) filter pack was installed around the well screen. The filter pack extended to approximately 2 feet above the screened section. A bentonite seal, constructed from bentonite chips, was placed approximately 2 feet above the top of the sand filter pack. A small amount of clean, potable water was poured into the borehole, and the bentonite chips were allowed to hydrate before grout was added to the borehole. The annular space above the bentonite chip seal was filled to the ground surface with bentonite grout, and a watertight expandable cap was installed. The wells were

completed with a locking inner cap and flush mount casing with bolt-down cover set in a concrete pad.

LABORATORY ANALYSES

Groundwater split samples were delivered to ALS laboratories in Cincinnati, Ohio for rapid 24-hour turnaround. ALS analyzed the samples using Method 8260; results are summarized in Table 2, below:

Table 2, Summary of Laboratory Analytical Data

	Acetone	Tetrachloroethene	Trichloroethene
GW1-32-37 (Upper zone)	17	ND	ND
GW1-47-52 (Lower zone)	8.3	ND	ND
GW2-37-42 (Lower zone)	14	80	6.3
GW3-32-37 (Upper zone)	ND	140	24
GW7-32-37 (Upper zone)	ND	86	ND
GW7-47-52 (Lower zone)	ND	27	ND
GW14-32-36 (Upper zone)	ND	14,000	ND
GW14-47.5-51.5 (Lower zone)	ND	5,500	15

Lab results shown are in ug/L (micrograms per liter)

The full laboratory package is included in Attachment 2.

All soil boring groundwater samples were analyzed using the Ohio EPA mobile laboratory and only preliminary results were reported to Tetra Tech. The four new monitoring wells were developed and sampled by the Ohio EPA and no analytical analyzed was reported to Tetra Tech.

Decontamination and Management of Investigation-Derived Waste (IDW)

Decontamination procedures were consistent with Tetra Tech's approved SSWP and MO TT13-03. Drilling and well development equipment was steam cleaned between locations. Drill cuttings generated during drilling and water generated during well development and decontamination were placed in 55-gallon drums.

SUMMARY OF RESULTS


The following results/observations were noted:

- Subsurface materials at the site were similar among the boring locations, with the deep clay layer at approximately 52 feet bgs. Two zones of groundwater were sampled at most borings – the lower at the bottom of the boring, and the upper at approximately 32 feet bgs.

- Groundwater samples collected on the southwest corner of the Mullins site in SB-2, the west side of the Mullins site in SB-1, SB-7, and off site to the west in SB-14 show detectable concentrations of both tetrachloroethene and trichloroethene.
- The greatest detectable concentrations tetrachloroethene in the upper and lower water bearing zones are shown in SB-14 which is immediately west of the solvent tank at the Mullins site.
- Ohio EPA reported to Tetra Tech that detectable concentrations of tetrachloroethene were also found in MW-4 which is west of SB-14 and the Mullins site.

If you have any questions regarding this report, please call Victoria Farmer at (513) 333-3666.

Sincerely,

A handwritten signature in black ink, appearing to read "Guy D. Montfort". The signature is fluid and cursive, with the first name "Guy" and last name "Montfort" being clearly legible, and "D." as a middle initial.

Guy Montfort
Contract Project Manager

Attachments (2)



Legend

● Approximate soil boring location

Source: Bing Maps

FIGURE 1

Mullins Rubber Onsite Boring Locations





LEGEND

- Approximate soil boring location

Source: Bing Maps

FIGURE 2

MULLINS RUBBER OFFISTE BORINGS


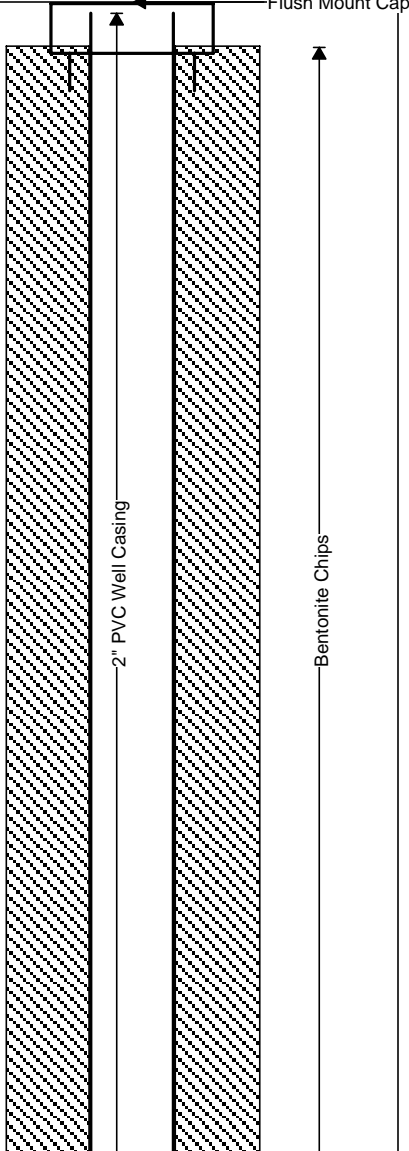

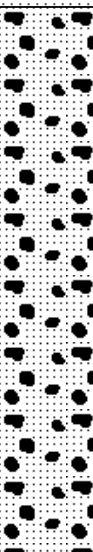



ATTACHMENT 1

Monitoring Well Installation Diagrams and Boring Logs

Tetra Tech EM Inc.
250 W. Court St., Suite 200W
Cincinnati, Ohio 45202

PROJECT NAME: Ohio EPA- Mullins	DRILLING COMPANY: Jersey West	BOREHOLE #: SB1	SHEET: 1 of 3
PROJECT NUMBER: 103S171417	RIG TYPE: Direct Push	ELEVATION: Not Measured	
SITE NAME: Mullins Rubber Products	BORING TYPE: MW <input checked="" type="checkbox"/> PIEZO <input type="checkbox"/> SB <input type="checkbox"/>	TOTAL DEPTH: 56' bgs	
COUNTY: Montgomery	DRILLER: Caprioni	STATIC WATER LEVEL: 26.41	
CITY, STATE: Dayton, Ohio	LOGGED BY: VF	BOREHOLE DIAMETER: 6"	
PROJECT MANAGER: Guy Montfort	SAMPLING METHOD: Continuous Core	START DATE: 3/18/13	FINISH DATE: 3/19/13

SUBSURFACE PROFILE			SAMPLE			WELL CONSTRUCTION
DEPTH (FT)	LITHOLOGY	DESCRIPTION	SAMPLE ID	PID (ppm) "bagged"	RECOVERY (%)	
		Clay Soft Brown clay, pebbles throughout	0-2	0.0	50	 <p>Flush Mount Cap</p> <p>2" PVC Well Casing</p> <p>Bentonite Chips</p>
		Sand Brown sand	2-4	0.0	50	
5		Sand and gravel Lt. brown sand and gravel slight petroleum odor to 12'	4-6	0.0	60	
			6-8	0.0	60	
			8-10	0.0	50	
10			10-12	0.0	50	
			12-14	0.0	60	
15			14-16	0.0	60	
		Silty clay Hard gray silty clay, gravel throughout, wet at 20'	16-18	0.0	60	
20			18-20	0.0	60	
			20-22	0.0	100	
			22-24	0.0	100	
25			24-26	0.0	100	

NOTES: ft or ' = feet bgs = below ground surface * = Indicates Sample Submitted for Laboratory Analysis

Tetra Tech EM Inc.
250 W. Court St., Suite 200W
Cincinnati, Ohio 45202

PROJECT NAME: Ohio EPA- Mullins	DRILLING COMPANY: Jersey West	BOREHOLE #: SB1	SHEET: 2 of 3
PROJECT NUMBER: 103S171417	RIG TYPE: Direct Push	ELEVATION: Not Measured	
SITE NAME: Mullins Rubber Products	BORING TYPE: MW <input checked="" type="checkbox"/> PIEZO <input type="checkbox"/> SB <input type="checkbox"/>	TOTAL DEPTH: 56' bgs	
COUNTY: Montgomery	DRILLER: Caprioni	STATIC WATER LEVEL: 26.41	
CITY, STATE: Dayton, Ohio	LOGGED BY: VF	BOREHOLE DIAMETER: 6"	
PROJECT MANAGER: Guy Montfort	SAMPLING METHOD: Continuous Core	START DATE: 3/18/13	FINISH DATE: 3/19/13

SUBSURFACE PROFILE			SAMPLE			WELL CONSTRUCTION
DEPTH (FT)	LITHOLOGY	DESCRIPTION	SAMPLE ID	PID (ppm) "bagged"	RECOVERY (%)	
			24-26			<p>DTW 26.41</p> <p>2" slot PVC Well Screen</p> <p>Borehole completed at 56' bgs</p> <p>Formation cave-in and bentonite back fill to 37' bgs</p> <p>#5 Silica Sand Pack</p>
			26-28	0.0	100	
			28-30	0.0	100	
30			30-32	0.0	100	
		Silty clay Soft grey silty clay with some gravel	32-34	0.0	100	
			34-36	0.0	100	
35			36-38	0.0	50	
		Sand and gravel Brown sand and gravel, wet Groundwater sample from 32-37' bgs	38-40	0.0	50	
			40-42	0.0	10	
40			42-44	0.0	10	
			44-46	0.0	40	
45			46-48	0.0	40	
		Sand Brown sand, wet, some large rocks at 50' Groundwater sample from 47-52' bgs	48-50	0.0	50	
50						

NOTES: ft or ' = feet bgs = below ground surface * = Indicates Sample Submitted for Laboratory Analysis

Tetra Tech EM Inc.
250 W. Court St., Suite 200W
Cincinnati, Ohio 45202

PROJECT NAME: Ohio EPA- Mullins	DRILLING COMPANY: Jersey West	BOREHOLE #: SB1	SHEET: 3 of 3
PROJECT NUMBER: 103S171417	RIG TYPE: Direct Push	ELEVATION: Not Measured	
SITE NAME: Mullins Rubber Products	BORING TYPE: MW <input checked="" type="checkbox"/> PIEZO <input type="checkbox"/> SB <input type="checkbox"/>	TOTAL DEPTH: 56' bgs	
COUNTY: Montgomery	DRILLER: Caprioni	STATIC WATER LEVEL: 26.41	
CITY, STATE: Dayton, Ohio	LOGGED BY: VF	BOREHOLE DIAMETER: 6"	
PROJECT MANAGER: Guy Montfort	SAMPLING METHOD: Continuous Core	START DATE: 3/18/13	FINISH DATE: 3/19/13

SUBSURFACE PROFILE			SAMPLE			WELL CONSTRUCTION
DEPTH (FT)	LITHOLOGY	DESCRIPTION	SAMPLE ID	PID (ppm) "bagged"	RECOVERY (%)	
			50-52	0.0	50	
		Silty sand Gray silty sand. Wet to 55'	52-54	0.0	50	
55		Silty sand Gray silty sand, dry, brittle	54-56	0.0	60	
60						
65						
70						
75						

NOTES: ft or '= feet bgs = below ground surface * = Indicates Sample Submitted for Laboratory Analysis

Tetra Tech EM Inc.
250 W. Court St., Suite 200W
Cincinnati, Ohio 45202

PROJECT NAME: Ohio EPA- Mullins	DRILLING COMPANY: Jersey West	BOREHOLE #: SB2	SHEET: 1 of 2
PROJECT NUMBER: 103S171417	RIG TYPE: Direct Push	ELEVATION: Not Measured	
SITE NAME: Mullins Rubber Products	BORING TYPE: MW <input type="checkbox"/> PIEZO <input type="checkbox"/> SB <input checked="" type="checkbox"/>	TOTAL DEPTH: 48.0' bgs	
COUNTY: Montgomery	DRILLER: Caprioni	STATIC WATER LEVEL:	
CITY, STATE: Dayton, Ohio	LOGGED BY: VF	BOREHOLE DIAMETER: 6"	
PROJECT MANAGER: Guy Montfort	SAMPLING METHOD: Continuous Core	START DATE: 3/19/13	FINISH DATE: 3/19/13

SUBSURFACE PROFILE			SAMPLE			WELL CONSTRUCTION
DEPTH (FT)	LITHOLOGY	DESCRIPTION	SAMPLE ID	PID (ppm) "bagged"	RECOVERY (%)	
5		No soil sampling Pushed to 17' bgs.				
10						
15						
20		Wet at 17' bgs. Insufficient amount of water for sample				
25		Pushed to 37' bgs.				

NOTES: ft or ' = feet bgs = below ground surface * = Indicates Sample Submitted for Laboratory Analysis

Tetra Tech EM Inc.
250 W. Court St., Suite 200W
Cincinnati, Ohio 45202

PROJECT NAME: Ohio EPA- Mullins	DRILLING COMPANY: Jersey West	BOREHOLE #: SB2	SHEET: 2 of 2
PROJECT NUMBER: 103S171417	RIG TYPE: Direct Push	ELEVATION: Not Measured	
SITE NAME: Mullins Rubber Products	BORING TYPE: MW <input type="checkbox"/> PIEZO <input type="checkbox"/> SB <input checked="" type="checkbox"/>	TOTAL DEPTH: 48.0' bgs	
COUNTY: Montgomery	DRILLER: Caprioni	STATIC WATER LEVEL:	
CITY, STATE: Dayton, Ohio	LOGGED BY: VF	BOREHOLE DIAMETER: 6"	
PROJECT MANAGER: Guy Montfort	SAMPLING METHOD: Continuous Core	START DATE: 3/19/13	FINISH DATE: 3/19/13

SUBSURFACE PROFILE			SAMPLE			WELL CONSTRUCTION
DEPTH (FT)	LITHOLOGY	DESCRIPTION	SAMPLE ID	PID (ppm) "bagged"	RECOVERY (%)	
30						
35						
40		Groundwater sample from 37-42' bgs				
45		Pushed to 48' bgs. Insufficient amount of water for sample.				
50						
						Borehole completed at 48' bgs Borehole backfilled with cuttings and bentonite.

NOTES: ft or ' = feet bgs = below ground surface * = Indicates Sample Submitted for Laboratory Analysis

Tetra Tech EM Inc.
250 W. Court St., Suite 200W
Cincinnati, Ohio 45202

PROJECT NAME: Ohio EPA- Mullins	DRILLING COMPANY: Jersey West	BOREHOLE #: SB3	SHEET: 1 of 3
PROJECT NUMBER: 103S171417	RIG TYPE: Direct Push	ELEVATION: Not Measured	
SITE NAME: Mullins Rubber Products	BORING TYPE: MW <input type="checkbox"/> PIEZO <input type="checkbox"/> SB <input checked="" type="checkbox"/>	TOTAL DEPTH: 52.00	
COUNTY: Montgomery	DRILLER: Caprioni	STATIC WATER LEVEL:	
CITY, STATE: Dayton, Ohio	LOGGED BY: VF	BOREHOLE DIAMETER: 6"	
PROJECT MANAGER: Guy Montfort	SAMPLING METHOD: Continuous Core	START DATE: 3/20/13	FINISH DATE: 3/20/13

SUBSURFACE PROFILE			SAMPLE			WELL CONSTRUCTION
DEPTH (FT)	LITHOLOGY	DESCRIPTION	SAMPLE ID	PID (ppm) "bagged"	RECOVERY (%)	
<div> <div></div> <div>5</div> <div></div> <div>10</div> <div></div> <div>15</div> <div></div> <div>20</div> <div></div> <div>25</div> </div>		No soil sampling Pushed to 17' bgs.				

NOTES: ft or ' = feet bgs = below ground surface * = Indicates Sample Submitted for Laboratory Analysis

Tetra Tech EM Inc.
250 W. Court St., Suite 200W
Cincinnati, Ohio 45202

PROJECT NAME: Ohio EPA- Mullins	DRILLING COMPANY: Jersey West	BOREHOLE #: SB3	SHEET: 2 of 3
PROJECT NUMBER: 103S171417	RIG TYPE: Direct Push	ELEVATION: Not Measured	
SITE NAME: Mullins Rubber Products	BORING TYPE: MW <input type="checkbox"/> PIEZO <input type="checkbox"/> SB <input checked="" type="checkbox"/>	TOTAL DEPTH: 52.00	
COUNTY: Montgomery	DRILLER: Caprioni	STATIC WATER LEVEL:	
CITY, STATE: Dayton, Ohio	LOGGED BY: VF	BOREHOLE DIAMETER: 6"	
PROJECT MANAGER: Guy Montfort	SAMPLING METHOD: Continuous Core	START DATE: 3/20/13	FINISH DATE: 3/20/13

SUBSURFACE PROFILE			SAMPLE			WELL CONSTRUCTION
DEPTH (FT)	LITHOLOGY	DESCRIPTION	SAMPLE ID	PID (ppm) "bagged"	RECOVERY (%)	
30						
35		Groundwater sample from 32-37' bgs				
40		No soil sampling Pushed to 47' bgs.				
45						
50		Groundwater sample from 47-52' bgs				

NOTES: ft or ' = feet bgs = below ground surface * = Indicates Sample Submitted for Laboratory Analysis

Tetra Tech EM Inc.
250 W. Court St., Suite 200W
Cincinnati, Ohio 45202

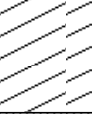
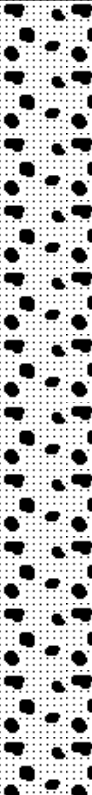
PROJECT NAME: Ohio EPA- Mullins	DRILLING COMPANY: Jersey West	BOREHOLE #: SB3	SHEET: 3 of 3
PROJECT NUMBER: 103S171417	RIG TYPE: Direct Push	ELEVATION: Not Measured	
SITE NAME: Mullins Rubber Products	BORING TYPE: MW <input type="checkbox"/> PIEZO <input type="checkbox"/> SB <input checked="" type="checkbox"/>	TOTAL DEPTH: 52.00	
COUNTY: Montgomery	DRILLER: Caprioni	STATIC WATER LEVEL:	
CITY, STATE: Dayton, Ohio	LOGGED BY: VF	BOREHOLE DIAMETER: 6"	
PROJECT MANAGER: Guy Montfort	SAMPLING METHOD: Continuous Core	START DATE: 3/20/13	FINISH DATE: 3/20/13

SUBSURFACE PROFILE			SAMPLE			WELL CONSTRUCTION
DEPTH (FT)	LITHOLOGY	DESCRIPTION	SAMPLE ID	PID (ppm) "bagged"	RECOVERY (%)	
55						<p>Borehole completed at 52' bgs</p> <p>Borehole backfilled with cuttings and bentonite</p>
60						
65						
70						
75						

NOTES: ft or ' = feet bgs = below ground surface * = Indicates Sample Submitted for Laboratory Analysis

Tetra Tech EM Inc.
250 W. Court St., Suite 200W
Cincinnati, Ohio 45202

PROJECT NAME: Ohio EPA- Mullins	DRILLING COMPANY: Jersey West	BOREHOLE #: SB4	SHEET: 1 of 2
PROJECT NUMBER: 103S171417	RIG TYPE: Direct Push	ELEVATION: Not Measured	
SITE NAME: Mullins Rubber Products	BORING TYPE: MW <input type="checkbox"/> PIEZO <input type="checkbox"/> SB <input checked="" type="checkbox"/>	TOTAL DEPTH: 46.00	
COUNTY: Montgomery	DRILLER: Caprioni	STATIC WATER LEVEL:	
CITY, STATE: Dayton, Ohio	LOGGED BY: VF	BOREHOLE DIAMETER: 6"	
PROJECT MANAGER: Guy Montfort	SAMPLING METHOD: Continuous Core	START DATE: 3/20/13	FINISH DATE: 3/20/13

SUBSURFACE PROFILE			SAMPLE			WELL CONSTRUCTION
DEPTH (FT)	LITHOLOGY	DESCRIPTION	SAMPLE ID	PID (ppm) "bagged"	RECOVERY (%)	
		Clay Brown clay with large gravel. Based on drilling resistance.				
5		Sand and gravel based on drilling resistance.				
10						
15						
20		No soil sampling Pushed to 32' bgs				
25						

NOTES: ft or '= feet bgs = below ground surface * = Indicates Sample Submitted for Laboratory Analysis

Tetra Tech EM Inc.
250 W. Court St., Suite 200W
Cincinnati, Ohio 45202

PROJECT NAME: Ohio EPA- Mullins	DRILLING COMPANY: Jersey West	BOREHOLE #: SB4	SHEET: 2 of 2
PROJECT NUMBER: 103S171417	RIG TYPE: Direct Push	ELEVATION: Not Measured	
SITE NAME: Mullins Rubber Products	BORING TYPE: MW <input type="checkbox"/> PIEZO <input type="checkbox"/> SB <input checked="" type="checkbox"/>	TOTAL DEPTH: 46.00	
COUNTY: Montgomery	DRILLER: Caprioni	STATIC WATER LEVEL:	
CITY, STATE: Dayton, Ohio	LOGGED BY: VF	BOREHOLE DIAMETER: 6"	
PROJECT MANAGER: Guy Montfort	SAMPLING METHOD: Continuous Core	START DATE: 3/20/13	FINISH DATE: 3/20/13

SUBSURFACE PROFILE			SAMPLE			WELL CONSTRUCTION
DEPTH (FT)	LITHOLOGY	DESCRIPTION	SAMPLE ID	PID (ppm) "bagged"	RECOVERY (%)	
30						
		Groundwater sample from 32-34' bgs				
35		No soil sampling Pushed to 44' bgs.				
40						
45		Groundwater sample from 44-46' bgs				
50						
						Borehole completed at 46' bgs Borehole backfilled with cuttings and bentonite

NOTES: ft or ' = feet bgs = below ground surface * = Indicates Sample Submitted for Laboratory Analysis

Tetra Tech EM Inc.
250 W. Court St., Suite 200W
Cincinnati, Ohio 45202

PROJECT NAME: Ohio EPA- Mullins	DRILLING COMPANY: Jersey West	BOREHOLE #: SB5	SHEET: 1 of 3
PROJECT NUMBER: 103S171417	RIG TYPE: Direct Push	ELEVATION: Not Measured	
SITE NAME: Mullins Rubber Products	BORING TYPE: MW <input type="checkbox"/> PIEZO <input type="checkbox"/> SB <input checked="" type="checkbox"/>	TOTAL DEPTH: 52.00	
COUNTY: Montgomery	DRILLER: Caprioni	STATIC WATER LEVEL:	
CITY, STATE: Dayton, Ohio	LOGGED BY: VF	BOREHOLE DIAMETER: 6"	
PROJECT MANAGER: Guy Montfort	SAMPLING METHOD: Continuous Core	START DATE: 3/21/13	FINISH DATE: 3/21/13

SUBSURFACE PROFILE			SAMPLE			WELL CONSTRUCTION
DEPTH (FT)	LITHOLOGY	DESCRIPTION	SAMPLE ID	PID (ppm) "bagged"	RECOVERY (%)	
<div> <div></div> <div>5</div> <div>10</div> <div>15</div> <div>20</div> <div>25</div> </div>		No soil sampling Pushed to 32' bgs				

NOTES: ft or ' = feet bgs = below ground surface * = Indicates Sample Submitted for Laboratory Analysis

Tetra Tech EM Inc.
250 W. Court St., Suite 200W
Cincinnati, Ohio 45202

PROJECT NAME: Ohio EPA- Mullins	DRILLING COMPANY: Jersey West	BOREHOLE #: SB5	SHEET: 2 of 3
PROJECT NUMBER: 103S171417	RIG TYPE: Direct Push	ELEVATION: Not Measured	
SITE NAME: Mullins Rubber Products	BORING TYPE: MW <input type="checkbox"/> PIEZO <input type="checkbox"/> SB <input checked="" type="checkbox"/>	TOTAL DEPTH: 52.00	
COUNTY: Montgomery	DRILLER: Caprioni	STATIC WATER LEVEL:	
CITY, STATE: Dayton, Ohio	LOGGED BY: VF	BOREHOLE DIAMETER: 6"	
PROJECT MANAGER: Guy Montfort	SAMPLING METHOD: Continuous Core	START DATE: 3/21/13	FINISH DATE: 3/21/13

SUBSURFACE PROFILE			SAMPLE			WELL CONSTRUCTION
DEPTH (FT)	LITHOLOGY	DESCRIPTION	SAMPLE ID	PID (ppm) "bagged"	RECOVERY (%)	
30						
35		Groundwater sample from 32-35.5' bgs				
40		No soil sampling Pushed to 48.5' bgs				
45						
50		Groundwater sample from 48.5-52' bgs				

NOTES: ft or ' = feet bgs = below ground surface * = Indicates Sample Submitted for Laboratory Analysis

Tetra Tech EM Inc.
250 W. Court St., Suite 200W
Cincinnati, Ohio 45202

PROJECT NAME: Ohio EPA- Mullins	DRILLING COMPANY: Jersey West	BOREHOLE #: SB5	SHEET: 3 of 3
PROJECT NUMBER: 103S171417	RIG TYPE: Direct Push	ELEVATION: Not Measured	
SITE NAME: Mullins Rubber Products	BORING TYPE: MW <input type="checkbox"/> PIEZO <input type="checkbox"/> SB <input checked="" type="checkbox"/>	TOTAL DEPTH: 52.00	
COUNTY: Montgomery	DRILLER: Caprioni	STATIC WATER LEVEL:	
CITY, STATE: Dayton, Ohio	LOGGED BY: VF	BOREHOLE DIAMETER: 6"	
PROJECT MANAGER: Guy Montfort	SAMPLING METHOD: Continuous Core	START DATE: 3/21/13	FINISH DATE: 3/21/13

SUBSURFACE PROFILE			SAMPLE			WELL CONSTRUCTION
DEPTH (FT)	LITHOLOGY	DESCRIPTION	SAMPLE ID	PID (ppm) "bagged"	RECOVERY (%)	
						Borehole completed at 52' bgs Borehole backfilled with cuttings and bentonite
55						
60						
65						
70						
75						

NOTES: ft or '= feet bgs = below ground surface * = Indicates Sample Submitted for Laboratory Analysis

Tetra Tech EM Inc.
250 W. Court St., Suite 200W
Cincinnati, Ohio 45202

PROJECT NAME: Ohio EPA- Mullins	DRILLING COMPANY: Jersey West	BOREHOLE #: SB6	SHEET: 1 of 3
PROJECT NUMBER: 103S171417	RIG TYPE: Direct Push	ELEVATION: Not Measured	
SITE NAME: Mullins Rubber Products	BORING TYPE: MW <input type="checkbox"/> PIEZO <input type="checkbox"/> SB <input checked="" type="checkbox"/>	TOTAL DEPTH: 52.0	
COUNTY: Montgomery	DRILLER: Caprioni	STATIC WATER LEVEL:	
CITY, STATE: Dayton, Ohio	LOGGED BY: VF	BOREHOLE DIAMETER: 6"	
PROJECT MANAGER: Guy Montfort	SAMPLING METHOD: Continuous Core	START DATE: 3/21/13	FINISH DATE: 3/21/13

SUBSURFACE PROFILE			SAMPLE			WELL CONSTRUCTION
DEPTH (FT)	LITHOLOGY	DESCRIPTION	SAMPLE ID	PID (ppm) "bagged"	RECOVERY (%)	
		No soil sampling Pushed to 52' bgs				

NOTES: ft or ' = feet bgs = below ground surface * = Indicates Sample Submitted for Laboratory Analysis

Tetra Tech EM Inc.
250 W. Court St., Suite 200W
Cincinnati, Ohio 45202

PROJECT NAME: Ohio EPA- Mullins	DRILLING COMPANY: Jersey West	BOREHOLE #: SB6	SHEET: 2 of 3
PROJECT NUMBER: 103S171417	RIG TYPE: Direct Push	ELEVATION: Not Measured	
SITE NAME: Mullins Rubber Products	BORING TYPE: MW <input type="checkbox"/> PIEZO <input type="checkbox"/> SB <input checked="" type="checkbox"/>	TOTAL DEPTH: 52.0	
COUNTY: Montgomery	DRILLER: Caprioni	STATIC WATER LEVEL:	
CITY, STATE: Dayton, Ohio	LOGGED BY: VF	BOREHOLE DIAMETER: 6"	
PROJECT MANAGER: Guy Montfort	SAMPLING METHOD: Continuous Core	START DATE: 3/21/13	FINISH DATE: 3/21/13

SUBSURFACE PROFILE			SAMPLE			WELL CONSTRUCTION
DEPTH (FT)	LITHOLOGY	DESCRIPTION	SAMPLE ID	PID (ppm) "bagged"	RECOVERY (%)	
30						
35		No soil sampling				
40						
45						
50						

NOTES: ft or '= feet bgs = below ground surface * = Indicates Sample Submitted for Laboratory Analysis

Tetra Tech EM Inc.
250 W. Court St., Suite 200W
Cincinnati, Ohio 45202

PROJECT NAME: Ohio EPA- Mullins	DRILLING COMPANY: Jersey West	BOREHOLE #: SB6	SHEET: 3 of 3
PROJECT NUMBER: 103S171417	RIG TYPE: Direct Push	ELEVATION: Not Measured	
SITE NAME: Mullins Rubber Products	BORING TYPE: MW <input type="checkbox"/> PIEZO <input type="checkbox"/> SB <input checked="" type="checkbox"/>	TOTAL DEPTH: 52.0	
COUNTY: Montgomery	DRILLER: Caprioni	STATIC WATER LEVEL:	
CITY, STATE: Dayton, Ohio	LOGGED BY: VF	BOREHOLE DIAMETER: 6"	
PROJECT MANAGER: Guy Montfort	SAMPLING METHOD: Continuous Core	START DATE: 3/21/13	FINISH DATE: 3/21/13

SUBSURFACE PROFILE			SAMPLE			WELL CONSTRUCTION
DEPTH (FT)	LITHOLOGY	DESCRIPTION	SAMPLE ID	PID (ppm) "bagged"	RECOVERY (%)	
						Borehole completed at 52' bgs Borehole backfilled with cuttings and bentonite
55						
60						
65						
70						
75						

NOTES: ft or ' = feet bgs = below ground surface * = Indicates Sample Submitted for Laboratory Analysis

Tetra Tech EM Inc.
250 W. Court St., Suite 200W
Cincinnati, Ohio 45202

PROJECT NAME: Ohio EPA- Mullins	DRILLING COMPANY: Jersey West	BOREHOLE #: SB7	SHEET: 1 of 3
PROJECT NUMBER: 103S171417	RIG TYPE: Direct Push	ELEVATION: Not Measured	
SITE NAME: Mullins Rubber Products	BORING TYPE: MW <input type="checkbox"/> PIEZO <input type="checkbox"/> SB <input checked="" type="checkbox"/>	TOTAL DEPTH: 52' bgs	
COUNTY: Montgomery	DRILLER: Caprioni	STATIC WATER LEVEL:	
CITY, STATE: Dayton, Ohio	LOGGED BY: VF	BOREHOLE DIAMETER: 6"	
PROJECT MANAGER: Guy Montfort	SAMPLING METHOD: Continuous Core	START DATE: 3/21/13	FINISH DATE: 3/21/13

SUBSURFACE PROFILE			SAMPLE			WELL CONSTRUCTION
DEPTH (FT)	LITHOLOGY	DESCRIPTION	SAMPLE ID	PID (ppm) "bagged"	RECOVERY (%)	
<div> <div></div> <div>5</div> <div></div> <div>10</div> <div></div> <div>15</div> <div></div> <div>20</div> <div></div> <div>25</div> </div>		No soil sampling Pushed to 32 bgs.				

NOTES: ft or ' = feet bgs = below ground surface * = Indicates Sample Submitted for Laboratory Analysis

Tetra Tech EM Inc.
250 W. Court St., Suite 200W
Cincinnati, Ohio 45202

PROJECT NAME: Ohio EPA- Mullins	DRILLING COMPANY: Jersey West	BOREHOLE #: SB7	SHEET: 2 of 3
PROJECT NUMBER: 103S171417	RIG TYPE: Direct Push	ELEVATION: Not Measured	
SITE NAME: Mullins Rubber Products	BORING TYPE: MW <input type="checkbox"/> PIEZO <input type="checkbox"/> SB <input checked="" type="checkbox"/>	TOTAL DEPTH: 52' bgs	
COUNTY: Montgomery	DRILLER: Caprioni	STATIC WATER LEVEL:	
CITY, STATE: Dayton, Ohio	LOGGED BY: VF	BOREHOLE DIAMETER: 6"	
PROJECT MANAGER: Guy Montfort	SAMPLING METHOD: Continuous Core	START DATE: 3/21/13	FINISH DATE: 3/21/13

SUBSURFACE PROFILE			SAMPLE			WELL CONSTRUCTION
DEPTH (FT)	LITHOLOGY	DESCRIPTION	SAMPLE ID	PID (ppm) "bagged"	RECOVERY (%)	
30						
35		Groundwater sample from 32-37' bgs				
40		No soil sampling Pushed to 47' bgs.				
45						
50		Groundwater sample from 47-52' bgs.				

NOTES: ft or ' = feet bgs = below ground surface * = Indicates Sample Submitted for Laboratory Analysis

Tetra Tech EM Inc.
250 W. Court St., Suite 200W
Cincinnati, Ohio 45202


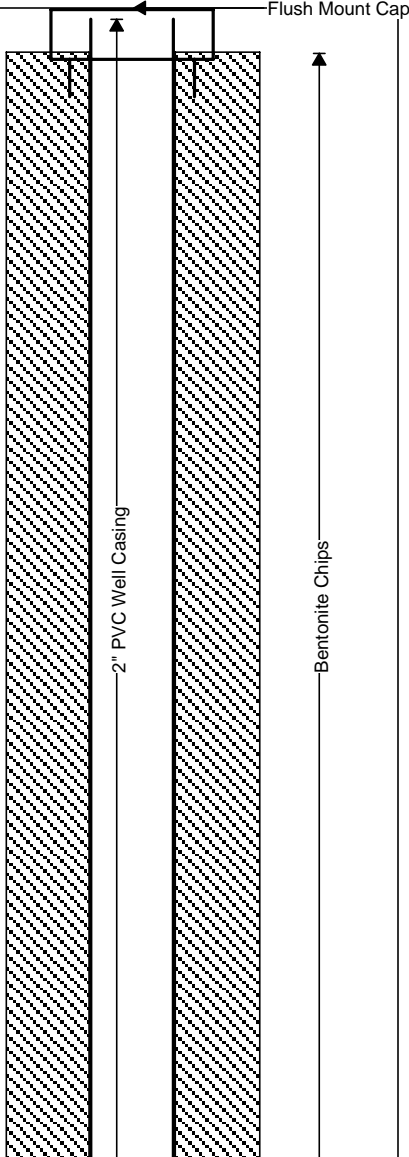
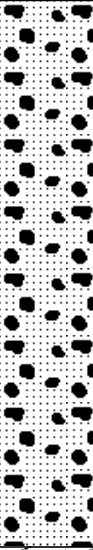


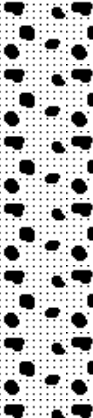
PROJECT NAME: Ohio EPA- Mullins	DRILLING COMPANY: Jersey West	BOREHOLE #: SB7	SHEET: 3 of 3
PROJECT NUMBER: 103S171417	RIG TYPE: Direct Push	ELEVATION: Not Measured	
SITE NAME: Mullins Rubber Products	BORING TYPE: MW <input type="checkbox"/> PIEZO <input type="checkbox"/> SB <input checked="" type="checkbox"/>	TOTAL DEPTH: 52' bgs	
COUNTY: Montgomery	DRILLER: Caprioni	STATIC WATER LEVEL:	
CITY, STATE: Dayton, Ohio	LOGGED BY: VF	BOREHOLE DIAMETER: 6"	
PROJECT MANAGER: Guy Montfort	SAMPLING METHOD: Continuous Core	START DATE: 3/21/13	FINISH DATE: 3/21/13

SUBSURFACE PROFILE			SAMPLE			WELL CONSTRUCTION
DEPTH (FT)	LITHOLOGY	DESCRIPTION	SAMPLE ID	PID (ppm) "bagged"	RECOVERY (%)	
55						Borehole completed at 52' bgs Borehole backfilled with cuttings and bentonite
60						
65						
70						
75						

NOTES: ft or ' = feet bgs = below ground surface * = Indicates Sample Submitted for Laboratory Analysis

Tetra Tech EM Inc.
250 W. Court St., Suite 200W
Cincinnati, Ohio 45202

PROJECT NAME: Ohio EPA- Mullins	DRILLING COMPANY: Jersey West	BOREHOLE #: SB8	SHEET: 1 of 2
PROJECT NUMBER: 103S171417	RIG TYPE: Direct Push	ELEVATION: Not Measured	
SITE NAME: Mullins Rubber Products	BORING TYPE: MW <input checked="" type="checkbox"/> PIEZO <input type="checkbox"/> SB <input type="checkbox"/>	TOTAL DEPTH: 45' bgs	
COUNTY: Montgomery	DRILLER: Caprioni	STATIC WATER LEVEL: 25.55	
CITY, STATE: Dayton, Ohio	LOGGED BY: BH	BOREHOLE DIAMETER: 6"	
PROJECT MANAGER: Guy Montfort	SAMPLING METHOD: Continuous Core	START DATE: 3/22/13	FINISH DATE: 3/22/13

SUBSURFACE PROFILE			SAMPLE			WELL CONSTRUCTION
DEPTH (FT)	LITHOLOGY	DESCRIPTION	SAMPLE ID	PID (ppm) "bagged"	RECOVERY (%)	
		Topsoil Soft dk. brown topsoil	0-2	1.7	75	 <p>Flush Mount Cap</p> <p>2" PVC Well Casing</p> <p>Bentonite Chips</p>
		Sand and gravel Brown fine to coarse sand and gravel	2-4	0.6	75	
			4-6	1.6	75	
			6-8	1.7	75	
			8-10	1.7	75	
			10-12	1.6	75	
		Clay Soft gray clay with some sand	12-14	1.0	100	
		Clay Brown clay firm	14-16	2.0	100	
		Sand and gravel gray to brown sand and gravel, fine to coars, wet at 27' bgs	16-18	4.1	80	
		Groundwater sample at 30-35' bgs	18-20	2.7	80	
			20-22	4.2	80	
			22-24	7.7	80	
			24-26	8.0	80	

NOTES: ft or ' = feet bgs = below ground surface * = Indicates Sample Submitted for Laboratory Analysis

Tetra Tech EM Inc.
250 W. Court St., Suite 200W
Cincinnati, Ohio 45202

PROJECT NAME: Ohio EPA- Mullins	DRILLING COMPANY: Jersey West	BOREHOLE #: SB8	SHEET: 2 of 2
PROJECT NUMBER: 103S171417	RIG TYPE: Direct Push	ELEVATION: Not Measured	
SITE NAME: Mullins Rubber Products	BORING TYPE: MW <input checked="" type="checkbox"/> PIEZO <input type="checkbox"/> SB <input type="checkbox"/>	TOTAL DEPTH: 45' bgs	
COUNTY: Montgomery	DRILLER: Caprioni	STATIC WATER LEVEL: 25.55	
CITY, STATE: Dayton, Ohio	LOGGED BY: BH	BOREHOLE DIAMETER: 6"	
PROJECT MANAGER: Guy Montfort	SAMPLING METHOD: Continuous Core	START DATE: 3/22/13	FINISH DATE: 3/22/13

SUBSURFACE PROFILE			SAMPLE			WELL CONSTRUCTION	
DEPTH (FT)	LITHOLOGY	DESCRIPTION	SAMPLE ID	PID (ppm) "bagged"	RECOVERY (%)		
			24-26				
			26-28	9.9	80		
			28-30	4.5	75		
30			30-32	8.6	75		
			32-34	4.0	75		
35		Clay Very firm/stiff gray clay	34-36	3.0	75		
			36-38	0.0	100		
			38-40	0.0	100		
40			40-42	0.0	100		
			42-44	0.0	100		
			44-45	0.0	100		
45							
50							

WELL CONSTRUCTION

Borehole completed at 45' bgs

Formation cave-in and bentonite back fill to 36' bgs

NOTES: ft or '= feet bgs = below ground surface * = Indicates Sample Submitted for Laboratory Analysis

Tetra Tech EM Inc.
250 W. Court St., Suite 200W
Cincinnati, Ohio 45202

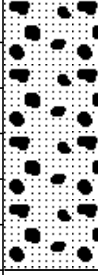
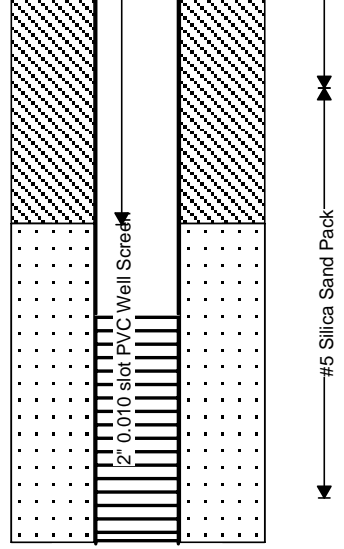
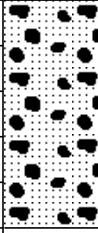
PROJECT NAME: Ohio EPA- Mullins	DRILLING COMPANY: Jersey West	BOREHOLE #: SB9	SHEET: 1 of 2
PROJECT NUMBER: 103S171417	RIG TYPE: Direct Push	ELEVATION: Not Measured	
SITE NAME: Mullins Rubber Products	BORING TYPE: MW <input checked="" type="checkbox"/> PIEZO <input type="checkbox"/> SB <input type="checkbox"/>	TOTAL DEPTH: 47' bgs	
COUNTY: Montgomery	DRILLER: Caprioni	STATIC WATER LEVEL: 23.18	
CITY, STATE: Dayton, Ohio	LOGGED BY: VF	BOREHOLE DIAMETER: 6"	
PROJECT MANAGER: Guy Montfort	SAMPLING METHOD: Continuous Core	START DATE: 3/25/13	FINISH DATE: 3/25/13

SUBSURFACE PROFILE			SAMPLE			WELL CONSTRUCTION
DEPTH (FT)	LITHOLOGY	DESCRIPTION	SAMPLE ID	PID (ppm) "bagged"	RECOVERY (%)	
0		No soil sampling Pushed to 24' bgs.				<p>Flush Mount Cap</p> <p>2" PVC Well Casing</p> <p>23.18' bgs</p> <p>Bentonite Chips</p>
25		Sand and gravel Based on drilling resistance				

NOTES: ft or ' = feet bgs = below ground surface * = Indicates Sample Submitted for Laboratory Analysis

Tetra Tech EM Inc.
250 W. Court St., Suite 200W
Cincinnati, Ohio 45202

PROJECT NAME: Ohio EPA- Mullins	DRILLING COMPANY: Jersey West	BOREHOLE #: SB9	SHEET: 2 of 2
PROJECT NUMBER: 103S171417	RIG TYPE: Direct Push	ELEVATION: Not Measured	
SITE NAME: Mullins Rubber Products	BORING TYPE: MW <input checked="" type="checkbox"/> PIEZO <input type="checkbox"/> SB <input type="checkbox"/>	TOTAL DEPTH: 47' bgs	
COUNTY: Montgomery	DRILLER: Caprioni	STATIC WATER LEVEL: 23.18	
CITY, STATE: Dayton, Ohio	LOGGED BY: VF	BOREHOLE DIAMETER: 6"	
PROJECT MANAGER: Guy Montfort	SAMPLING METHOD: Continuous Core	START DATE: 3/25/13	FINISH DATE: 3/25/13

SUBSURFACE PROFILE			SAMPLE			WELL CONSTRUCTION
DEPTH (FT)	LITHOLOGY	DESCRIPTION	SAMPLE ID	PID (ppm) "bagged"	RECOVERY (%)	
30						 <p>Borehole completed at 47' bgs Formation cave-in and bentonite back fill to 37' bgs</p>
35		No soil sampling Pushed to 42' bgs, Groundwater sample from 32-37' bgs.				
45		Sand and gravel Based on drilling resistance, Groundwater sample from 42-47' bgs.				
50						

NOTES: ft or '= feet bgs = below ground surface * = Indicates Sample Submitted for Laboratory Analysis

Tetra Tech EM Inc.
250 W. Court St., Suite 200W
Cincinnati, Ohio 45202

PROJECT NAME: Ohio EPA- Mullins	DRILLING COMPANY: Jersey West	BOREHOLE #: SB10	SHEET: 1 of 3
PROJECT NUMBER: 103S171417	RIG TYPE: Direct Push	ELEVATION: Not Measured	
SITE NAME: Mullins Rubber Products	BORING TYPE: MW <input type="checkbox"/> PIEZO <input type="checkbox"/> SB <input checked="" type="checkbox"/>	TOTAL DEPTH: 52' bgs	
COUNTY: Montgomery	DRILLER: Caprioni	STATIC WATER LEVEL:	
CITY, STATE: Dayton, Ohio	LOGGED BY: VF	BOREHOLE DIAMETER: 6"	
PROJECT MANAGER: Guy Montfort	SAMPLING METHOD: Continuous Core	START DATE: 3/25/13	FINISH DATE: 3/25/13

SUBSURFACE PROFILE			SAMPLE			WELL CONSTRUCTION
DEPTH (FT)	LITHOLOGY	DESCRIPTION	SAMPLE ID	PID (ppm) "bagged"	RECOVERY (%)	
<div> <div></div> <div>5</div> <div></div> <div>10</div> <div></div> <div>15</div> <div></div> <div>20</div> <div></div> <div>25</div> </div>		No soil sampling Pushed to 32 bgs.				

NOTES: ft or ' = feet bgs = below ground surface * = Indicates Sample Submitted for Laboratory Analysis

Tetra Tech EM Inc.
250 W. Court St., Suite 200W
Cincinnati, Ohio 45202

PROJECT NAME: Ohio EPA- Mullins	DRILLING COMPANY: Jersey West	BOREHOLE #: SB10	SHEET: 2 of 3
PROJECT NUMBER: 103S171417	RIG TYPE: Direct Push	ELEVATION: Not Measured	
SITE NAME: Mullins Rubber Products	BORING TYPE: MW <input type="checkbox"/> PIEZO <input type="checkbox"/> SB <input checked="" type="checkbox"/>	TOTAL DEPTH: 52' bgs	
COUNTY: Montgomery	DRILLER: Caprioni	STATIC WATER LEVEL:	
CITY, STATE: Dayton, Ohio	LOGGED BY: VF	BOREHOLE DIAMETER: 6"	
PROJECT MANAGER: Guy Montfort	SAMPLING METHOD: Continuous Core	START DATE: 3/25/13	FINISH DATE: 3/25/13

SUBSURFACE PROFILE			SAMPLE			WELL CONSTRUCTION
DEPTH (FT)	LITHOLOGY	DESCRIPTION	SAMPLE ID	PID (ppm) "bagged"	RECOVERY (%)	
30						
35		Groundwater sample from 32-37' bgs				
40		No soil sampling Pushed to 47' bgs.				
45						
50		Groundwater sample from 47-52' bgs.				

NOTES: ft or ' = feet bgs = below ground surface * = Indicates Sample Submitted for Laboratory Analysis

Tetra Tech EM Inc.
250 W. Court St., Suite 200W
Cincinnati, Ohio 45202

PROJECT NAME: Ohio EPA- Mullins	DRILLING COMPANY: Jersey West	BOREHOLE #: SB10	SHEET: 3 of 3
PROJECT NUMBER: 103S171417	RIG TYPE: Direct Push	ELEVATION: Not Measured	
SITE NAME: Mullins Rubber Products	BORING TYPE: MW <input type="checkbox"/> PIEZO <input type="checkbox"/> SB <input checked="" type="checkbox"/>	TOTAL DEPTH: 52' bgs	
COUNTY: Montgomery	DRILLER: Caprioni	STATIC WATER LEVEL:	
CITY, STATE: Dayton, Ohio	LOGGED BY: VF	BOREHOLE DIAMETER: 6"	
PROJECT MANAGER: Guy Montfort	SAMPLING METHOD: Continuous Core	START DATE: 3/25/13	FINISH DATE: 3/25/13

SUBSURFACE PROFILE			SAMPLE			WELL CONSTRUCTION
DEPTH (FT)	LITHOLOGY	DESCRIPTION	SAMPLE ID	PID (ppm) "bagged"	RECOVERY (%)	
55						<p>Borehole completed at 52' bgs</p> <p>Borehole backfilled with cuttings and bentonite</p>
60						
65						
70						
75						

NOTES: ft or ' = feet bgs = below ground surface * = Indicates Sample Submitted for Laboratory Analysis

Tetra Tech EM Inc.
250 W. Court St., Suite 200W
Cincinnati, Ohio 45202

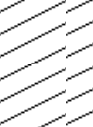
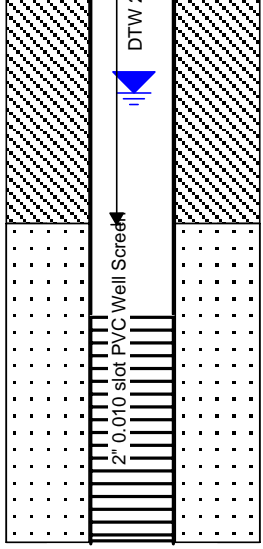
PROJECT NAME: Ohio EPA- Mullins	DRILLING COMPANY: Jersey West	BOREHOLE #: SB11	SHEET: 1 of 2
PROJECT NUMBER: 103S171417	RIG TYPE: Direct Push	ELEVATION: Not Measured	
SITE NAME: Mullins Rubber Products	BORING TYPE: MW <input checked="" type="checkbox"/> PIEZO <input type="checkbox"/> SB <input type="checkbox"/>	TOTAL DEPTH: 37' bgs	
COUNTY: Montgomery	DRILLER: Caprioni	STATIC WATER LEVEL: 27.11	
CITY, STATE: Dayton, Ohio	LOGGED BY: VF	BOREHOLE DIAMETER: 6"	
PROJECT MANAGER: Guy Montfort	SAMPLING METHOD: Continuous Core	START DATE: 3/26/13	FINISH DATE: 3/26/13

SUBSURFACE PROFILE			SAMPLE			WELL CONSTRUCTION
DEPTH (FT)	LITHOLOGY	DESCRIPTION	SAMPLE ID	PID (ppm) "bagged"	RECOVERY (%)	
5		No soil sampling Pushed to 24' bgs.				<p>Flush Mount Cap</p> <p>2" PVC Well Casing</p> <p>Bentonite Chips</p>
10						
15						
20						
25		Sand and gravel Sand and gravel, wet.				

NOTES: ft or '= feet bgs = below ground surface * = Indicates Sample Submitted for Laboratory Analysis

Tetra Tech EM Inc.
250 W. Court St., Suite 200W
Cincinnati, Ohio 45202

PROJECT NAME: Ohio EPA- Mullins	DRILLING COMPANY: Jersey West	BOREHOLE #: SB11	SHEET: 2 of 2
PROJECT NUMBER: 103S171417	RIG TYPE: Direct Push	ELEVATION: Not Measured	
SITE NAME: Mullins Rubber Products	BORING TYPE: MW <input checked="" type="checkbox"/> PIEZO <input type="checkbox"/> SB <input type="checkbox"/>	TOTAL DEPTH: 37' bgs	
COUNTY: Montgomery	DRILLER: Caprioni	STATIC WATER LEVEL: 27.11	
CITY, STATE: Dayton, Ohio	LOGGED BY: VF	BOREHOLE DIAMETER: 6"	
PROJECT MANAGER: Guy Montfort	SAMPLING METHOD: Continuous Core	START DATE: 3/26/13	FINISH DATE: 3/26/13

SUBSURFACE PROFILE			SAMPLE			WELL CONSTRUCTION
DEPTH (FT)	LITHOLOGY	DESCRIPTION	SAMPLE ID	PID (ppm) "bagged"	RECOVERY (%)	
		Clay Very stiff gray clay.	24-28		100	 <p>DTW 27.11' bgs</p> <p>2" 0.010 slot PVC Well Screen</p> <p>#5 Silica Sand Pack</p> <p>Borehole completed at 37' bgs</p>
30		No soil sampling Pushed to 37' bgs. Groundwater sample 32-37' bgs				
35						
40						
45						
50						

NOTES: ft or ' = feet bgs = below ground surface * = Indicates Sample Submitted for Laboratory Analysis

Tetra Tech EM Inc.
250 W. Court St., Suite 200W
Cincinnati, Ohio 45202

PROJECT NAME: Ohio EPA- Mullins	DRILLING COMPANY: Jersey West	BOREHOLE #: SB12	SHEET: 1 of 3
PROJECT NUMBER: 103S171417	RIG TYPE: Direct Push	ELEVATION: Not Measured	
SITE NAME: Mullins Rubber Products	BORING TYPE: MW <input type="checkbox"/> PIEZO <input type="checkbox"/> SB <input checked="" type="checkbox"/>	TOTAL DEPTH: 52' bgs	
COUNTY: Montgomery	DRILLER: Caprioni	STATIC WATER LEVEL:	
CITY, STATE: Dayton, Ohio	LOGGED BY: VF	BOREHOLE DIAMETER: 6"	
PROJECT MANAGER: Guy Montfort	SAMPLING METHOD: Continuous Core	START DATE: 3/27/13	FINISH DATE: 3/27/13

SUBSURFACE PROFILE			SAMPLE			WELL CONSTRUCTION
DEPTH (FT)	LITHOLOGY	DESCRIPTION	SAMPLE ID	PID (ppm) "bagged"	RECOVERY (%)	
		No soil sampling Pushed to 32 bgs.				

NOTES: ft or ' = feet bgs = below ground surface * = Indicates Sample Submitted for Laboratory Analysis

Tetra Tech EM Inc.
250 W. Court St., Suite 200W
Cincinnati, Ohio 45202

PROJECT NAME: Ohio EPA- Mullins	DRILLING COMPANY: Jersey West	BOREHOLE #: SB12	SHEET: 2 of 3
PROJECT NUMBER: 103S171417	RIG TYPE: Direct Push	ELEVATION: Not Measured	
SITE NAME: Mullins Rubber Products	BORING TYPE: MW <input type="checkbox"/> PIEZO <input type="checkbox"/> SB <input checked="" type="checkbox"/>	TOTAL DEPTH: 52' bgs	
COUNTY: Montgomery	DRILLER: Caprioni	STATIC WATER LEVEL:	
CITY, STATE: Dayton, Ohio	LOGGED BY: VF	BOREHOLE DIAMETER: 6"	
PROJECT MANAGER: Guy Montfort	SAMPLING METHOD: Continuous Core	START DATE: 3/27/13	FINISH DATE: 3/27/13

SUBSURFACE PROFILE			SAMPLE			WELL CONSTRUCTION
DEPTH (FT)	LITHOLOGY	DESCRIPTION	SAMPLE ID	PID (ppm) "bagged"	RECOVERY (%)	
30						
35		Groundwater sample from 32-36'bgs				
40		No soil sampling Pushed to 48' bgs.				
45						
50		Groundwater sample from 48-52' bgs.				

NOTES: ft or '= feet bgs = below ground surface * = Indicates Sample Submitted for Laboratory Analysis

Tetra Tech EM Inc.
250 W. Court St., Suite 200W
Cincinnati, Ohio 45202

PROJECT NAME: Ohio EPA- Mullins	DRILLING COMPANY: Jersey West	BOREHOLE #: SB12	SHEET: 3 of 3
PROJECT NUMBER: 103S171417	RIG TYPE: Direct Push	ELEVATION: Not Measured	
SITE NAME: Mullins Rubber Products	BORING TYPE: MW <input type="checkbox"/> PIEZO <input type="checkbox"/> SB <input checked="" type="checkbox"/>	TOTAL DEPTH: 52' bgs	
COUNTY: Montgomery	DRILLER: Caprioni	STATIC WATER LEVEL:	
CITY, STATE: Dayton, Ohio	LOGGED BY: VF	BOREHOLE DIAMETER: 6"	
PROJECT MANAGER: Guy Montfort	SAMPLING METHOD: Continuous Core	START DATE: 3/27/13	FINISH DATE: 3/27/13

SUBSURFACE PROFILE			SAMPLE			WELL CONSTRUCTION
DEPTH (FT)	LITHOLOGY	DESCRIPTION	SAMPLE ID	PID (ppm) "bagged"	RECOVERY (%)	
						Borehole completed at 52' bgs Borehole backfilled with cuttings and bentonite
55						
60						
65						
70						
75						

NOTES: ft or '= feet bgs = below ground surface * = Indicates Sample Submitted for Laboratory Analysis

Tetra Tech EM Inc.
250 W. Court St., Suite 200W
Cincinnati, Ohio 45202

PROJECT NAME: Ohio EPA- Mullins	DRILLING COMPANY: Jersey West	BOREHOLE #: SB13	SHEET: 1 of 2
PROJECT NUMBER: 103S171417	RIG TYPE: Direct Push	ELEVATION: Not Measured	
SITE NAME: Mullins Rubber Products	BORING TYPE: MW <input type="checkbox"/> PIEZO <input type="checkbox"/> SB <input checked="" type="checkbox"/>	TOTAL DEPTH: 43' bgs	
COUNTY: Montgomery	DRILLER: Caprioni	STATIC WATER LEVEL:	
CITY, STATE: Dayton, Ohio	LOGGED BY: VF	BOREHOLE DIAMETER: 6"	
PROJECT MANAGER: Guy Montfort	SAMPLING METHOD: Continuous Core	START DATE: 3/27/13	FINISH DATE: 3/27/13

SUBSURFACE PROFILE			SAMPLE			WELL CONSTRUCTION
DEPTH (FT)	LITHOLOGY	DESCRIPTION	SAMPLE ID	PID (ppm) "bagged"	RECOVERY (%)	
<div> <div></div> <div>5</div> <div>10</div> <div>15</div> <div>20</div> <div>25</div> </div>		No soil sampling Pushed to 25 bgs.				

NOTES: ft or ' = feet bgs = below ground surface * = Indicates Sample Submitted for Laboratory Analysis

Tetra Tech EM Inc.
250 W. Court St., Suite 200W
Cincinnati, Ohio 45202

PROJECT NAME: Ohio EPA- Mullins	DRILLING COMPANY: Jersey West	BOREHOLE #: SB13	SHEET: 2 of 2
PROJECT NUMBER: 103S171417	RIG TYPE: Direct Push	ELEVATION: Not Measured	
SITE NAME: Mullins Rubber Products	BORING TYPE: MW <input type="checkbox"/> PIEZO <input type="checkbox"/> SB <input checked="" type="checkbox"/>	TOTAL DEPTH: 43' bgs	
COUNTY: Montgomery	DRILLER: Caprioni	STATIC WATER LEVEL:	
CITY, STATE: Dayton, Ohio	LOGGED BY: VF	BOREHOLE DIAMETER: 6"	
PROJECT MANAGER: Guy Montfort	SAMPLING METHOD: Continuous Core	START DATE: 3/27/13	FINISH DATE: 3/27/13

SUBSURFACE PROFILE			SAMPLE			WELL CONSTRUCTION
DEPTH (FT)	LITHOLOGY	DESCRIPTION	SAMPLE ID	PID (ppm) "bagged"	RECOVERY (%)	
		Groundwater sample from 25-29' bgs				Borehole completed at 43' bgs Borehole backfilled with cuttings and bentonite
30		No soil sampling Pushed to 39' bgs.				
35						
40		Groundwater sample from 39-43' bgs.				
45						
50						

NOTES: ft or ' = feet bgs = below ground surface * = Indicates Sample Submitted for Laboratory Analysis

Tetra Tech EM Inc.
250 W. Court St., Suite 200W
Cincinnati, Ohio 45202

PROJECT NAME: Ohio EPA- Mullins	DRILLING COMPANY: Jersey West	BOREHOLE #: SB14	SHEET: 1 of 3
PROJECT NUMBER: 103S171417	RIG TYPE: Direct Push	ELEVATION: Not Measured	
SITE NAME: Mullins Rubber Products	BORING TYPE: MW <input type="checkbox"/> PIEZO <input type="checkbox"/> SB <input checked="" type="checkbox"/>	TOTAL DEPTH: 51.5' bgs	
COUNTY: Montgomery	DRILLER: Caprioni	STATIC WATER LEVEL:	
CITY, STATE: Dayton, Ohio	LOGGED BY: VF	BOREHOLE DIAMETER: 6"	
PROJECT MANAGER: Guy Montfort	SAMPLING METHOD: Continuous Core	START DATE: 3/27/13	FINISH DATE: 3/27/13

SUBSURFACE PROFILE			SAMPLE			WELL CONSTRUCTION
DEPTH (FT)	LITHOLOGY	DESCRIPTION	SAMPLE ID	PID (ppm) "bagged"	RECOVERY (%)	
<div> <div></div> <div>5</div> <div></div> <div>10</div> <div></div> <div>15</div> <div></div> <div>20</div> <div></div> <div>25</div> </div>		No soil sampling Pushed to 32' bgs.				

NOTES: ft or ' = feet bgs = below ground surface * = Indicates Sample Submitted for Laboratory Analysis

Tetra Tech EM Inc.
250 W. Court St., Suite 200W
Cincinnati, Ohio 45202

PROJECT NAME: Ohio EPA- Mullins	DRILLING COMPANY: Jersey West	BOREHOLE #: SB14	SHEET: 2 of 3
PROJECT NUMBER: 103S171417	RIG TYPE: Direct Push	ELEVATION: Not Measured	
SITE NAME: Mullins Rubber Products	BORING TYPE: MW <input type="checkbox"/> PIEZO <input type="checkbox"/> SB <input checked="" type="checkbox"/>	TOTAL DEPTH: 51.5' bgs	
COUNTY: Montgomery	DRILLER: Caprioni	STATIC WATER LEVEL:	
CITY, STATE: Dayton, Ohio	LOGGED BY: VF	BOREHOLE DIAMETER: 6"	
PROJECT MANAGER: Guy Montfort	SAMPLING METHOD: Continuous Core	START DATE: 3/27/13	FINISH DATE: 3/27/13

SUBSURFACE PROFILE			SAMPLE			WELL CONSTRUCTION
DEPTH (FT)	LITHOLOGY	DESCRIPTION	SAMPLE ID	PID (ppm) "bagged"	RECOVERY (%)	
30						
35		Groundwater sample from 32-36' bgs				
40		No soil sampling Pushed to 47.5' bgs.				
45						
50		Groundwater sample from 47.5-51.5' bgs.				

NOTES: ft or '= feet bgs = below ground surface * = Indicates Sample Submitted for Laboratory Analysis

Tetra Tech EM Inc.
250 W. Court St., Suite 200W
Cincinnati, Ohio 45202

PROJECT NAME: Ohio EPA- Mullins	DRILLING COMPANY: Jersey West	BOREHOLE #: SB14	SHEET: 3 of 3
PROJECT NUMBER: 103S171417	RIG TYPE: Direct Push	ELEVATION: Not Measured	
SITE NAME: Mullins Rubber Products	BORING TYPE: MW <input type="checkbox"/> PIEZO <input type="checkbox"/> SB <input checked="" type="checkbox"/>	TOTAL DEPTH: 51.5' bgs	
COUNTY: Montgomery	DRILLER: Caprioni	STATIC WATER LEVEL:	
CITY, STATE: Dayton, Ohio	LOGGED BY: VF	BOREHOLE DIAMETER: 6"	
PROJECT MANAGER: Guy Montfort	SAMPLING METHOD: Continuous Core	START DATE: 3/27/13	FINISH DATE: 3/27/13

SUBSURFACE PROFILE			SAMPLE			WELL CONSTRUCTION
DEPTH (FT)	LITHOLOGY	DESCRIPTION	SAMPLE ID	PID (ppm) "bagged"	RECOVERY (%)	
55						Borehole completed at 51.5' bgs Borehole backfilled with cuttings and bentonite
60						
65						
70						
75						

NOTES: ft or '= feet bgs = below ground surface * = Indicates Sample Submitted for Laboratory Analysis

Tetra Tech EM Inc.
250 W. Court St., Suite 200W
Cincinnati, Ohio 45202

PROJECT NAME: Ohio EPA- Mullins	DRILLING COMPANY: Jersey West	BOREHOLE #: SB15	SHEET: 1 of 3
PROJECT NUMBER: 103S171417	RIG TYPE: Direct Push	ELEVATION: Not Measured	
SITE NAME: Mullins Rubber Products	BORING TYPE: MW <input type="checkbox"/> PIEZO <input type="checkbox"/> SB <input checked="" type="checkbox"/>	TOTAL DEPTH: 51.0' bgs	
COUNTY: Montgomery	DRILLER: Caprioni	STATIC WATER LEVEL:	
CITY, STATE: Dayton, Ohio	LOGGED BY: VF	BOREHOLE DIAMETER: 6"	
PROJECT MANAGER: Guy Montfort	SAMPLING METHOD: Continuous Core	START DATE: 3/28/13	FINISH DATE: 3/28/13

SUBSURFACE PROFILE			SAMPLE			WELL CONSTRUCTION
DEPTH (FT)	LITHOLOGY	DESCRIPTION	SAMPLE ID	PID (ppm) "bagged"	RECOVERY (%)	
<div> <div></div> <div>5</div> <div>10</div> <div>15</div> <div>20</div> <div>25</div> </div>		No soil sampling Pushed to 32' bgs.				

NOTES: ft or ' = feet bgs = below ground surface * = Indicates Sample Submitted for Laboratory Analysis

Tetra Tech EM Inc.
250 W. Court St., Suite 200W
Cincinnati, Ohio 45202

PROJECT NAME: Ohio EPA- Mullins	DRILLING COMPANY: Jersey West	BOREHOLE #: SB15	SHEET: 2 of 3
PROJECT NUMBER: 103S171417	RIG TYPE: Direct Push	ELEVATION: Not Measured	
SITE NAME: Mullins Rubber Products	BORING TYPE: MW <input type="checkbox"/> PIEZO <input type="checkbox"/> SB <input checked="" type="checkbox"/>	TOTAL DEPTH: 51.0' bgs	
COUNTY: Montgomery	DRILLER: Caprioni	STATIC WATER LEVEL:	
CITY, STATE: Dayton, Ohio	LOGGED BY: VF	BOREHOLE DIAMETER: 6"	
PROJECT MANAGER: Guy Montfort	SAMPLING METHOD: Continuous Core	START DATE: 3/28/13	FINISH DATE: 3/28/13

SUBSURFACE PROFILE			SAMPLE			WELL CONSTRUCTION
DEPTH (FT)	LITHOLOGY	DESCRIPTION	SAMPLE ID	PID (ppm) "bagged"	RECOVERY (%)	
30						
		Groundwater sample from 32-35' bgs				
35		No soil sampling Pushed to 48' bgs.				
40						
45						
		Groundwater sample from 48-51' bgs.				
50						

NOTES: ft or ' = feet bgs = below ground surface * = Indicates Sample Submitted for Laboratory Analysis

Tetra Tech EM Inc.
250 W. Court St., Suite 200W
Cincinnati, Ohio 45202

PROJECT NAME: Ohio EPA- Mullins	DRILLING COMPANY: Jersey West	BOREHOLE #: SB15	SHEET: 3 of 3
PROJECT NUMBER: 103S171417	RIG TYPE: Direct Push	ELEVATION: Not Measured	
SITE NAME: Mullins Rubber Products	BORING TYPE: MW <input type="checkbox"/> PIEZO <input type="checkbox"/> SB <input checked="" type="checkbox"/>	TOTAL DEPTH: 51.0' bgs	
COUNTY: Montgomery	DRILLER: Caprioni	STATIC WATER LEVEL:	
CITY, STATE: Dayton, Ohio	LOGGED BY: VF	BOREHOLE DIAMETER: 6"	
PROJECT MANAGER: Guy Montfort	SAMPLING METHOD: Continuous Core	START DATE: 3/28/13	FINISH DATE: 3/28/13

SUBSURFACE PROFILE			SAMPLE			WELL CONSTRUCTION
DEPTH (FT)	LITHOLOGY	DESCRIPTION	SAMPLE ID	PID (ppm) "bagged"	RECOVERY (%)	
55						<p>Borehole completed at 51' bgs</p> <p>Borehole backfilled with cuttings and bentonite</p>
60						
65						
70						
75						

NOTES: ft or ' = feet bgs = below ground surface * = Indicates Sample Submitted for Laboratory Analysis

Tetra Tech EM Inc.
250 W. Court St., Suite 200W
Cincinnati, Ohio 45202

PROJECT NAME: Ohio EPA- Mullins	DRILLING COMPANY: Jersey West	BOREHOLE #: SB16	SHEET: 1 of 2
PROJECT NUMBER: 103S171417	RIG TYPE: Direct Push	ELEVATION: Not Measured	
SITE NAME: Mullins Rubber Products	BORING TYPE: MW <input type="checkbox"/> PIEZO <input type="checkbox"/> SB <input checked="" type="checkbox"/>	TOTAL DEPTH: 45.0' bgs	
COUNTY: Montgomery	DRILLER: Caprioni	STATIC WATER LEVEL:	
CITY, STATE: Dayton, Ohio	LOGGED BY: VF	BOREHOLE DIAMETER: 6"	
PROJECT MANAGER: Guy Montfort	SAMPLING METHOD: Continuous Core	START DATE: 3/28/13	FINISH DATE: 3/28/13

SUBSURFACE PROFILE			SAMPLE			WELL CONSTRUCTION
DEPTH (FT)	LITHOLOGY	DESCRIPTION	SAMPLE ID	PID (ppm) "bagged"	RECOVERY (%)	
5		No soil sampling Pushed to 24' bgs.				
25		Groundwater sample from 24-28' bgs				

NOTES: ft or ' = feet bgs = below ground surface * = Indicates Sample Submitted for Laboratory Analysis

Tetra Tech EM Inc.
250 W. Court St., Suite 200W
Cincinnati, Ohio 45202

PROJECT NAME: Ohio EPA- Mullins	DRILLING COMPANY: Jersey West	BOREHOLE #: SB16	SHEET: 2 of 2
PROJECT NUMBER: 103S171417	RIG TYPE: Direct Push	ELEVATION: Not Measured	
SITE NAME: Mullins Rubber Products	BORING TYPE: MW <input type="checkbox"/> PIEZO <input type="checkbox"/> SB <input checked="" type="checkbox"/>	TOTAL DEPTH: 45.0' bgs	
COUNTY: Montgomery	DRILLER: Caprioni	STATIC WATER LEVEL:	
CITY, STATE: Dayton, Ohio	LOGGED BY: VF	BOREHOLE DIAMETER: 6"	
PROJECT MANAGER: Guy Montfort	SAMPLING METHOD: Continuous Core	START DATE: 3/28/13	FINISH DATE: 3/28/13

SUBSURFACE PROFILE			SAMPLE			WELL CONSTRUCTION
DEPTH (FT)	LITHOLOGY	DESCRIPTION	SAMPLE ID	PID (ppm) "bagged"	RECOVERY (%)	
30		No soil sampling Pushed to 41' bgs.				
35						
40						
45		Groundwater sample from 41-45' bgs.				
50						
						Borehole completed at 45' bgs Borehole backfilled with cuttings and bentonite

NOTES: ft or '= feet bgs = below ground surface * = Indicates Sample Submitted for Laboratory Analysis

Tetra Tech EM Inc.
250 W. Court St., Suite 200W
Cincinnati, Ohio 45202

PROJECT NAME: Ohio EPA- Mullins	DRILLING COMPANY: Jersey West	BOREHOLE #: SB17	SHEET: 1 of 3
PROJECT NUMBER: 103S171417	RIG TYPE: Direct Push	ELEVATION: Not Measured	
SITE NAME: Mullins Rubber Products	BORING TYPE: MW <input type="checkbox"/> PIEZO <input type="checkbox"/> SB <input checked="" type="checkbox"/>	TOTAL DEPTH: 51.5' bgs	
COUNTY: Montgomery	DRILLER: Caprioni	STATIC WATER LEVEL:	
CITY, STATE: Dayton, Ohio	LOGGED BY: VF	BOREHOLE DIAMETER: 6"	
PROJECT MANAGER: Guy Montfort	SAMPLING METHOD: Continuous Core	START DATE: 3/29/13	FINISH DATE: 3/29/13

SUBSURFACE PROFILE			SAMPLE			WELL CONSTRUCTION
DEPTH (FT)	LITHOLOGY	DESCRIPTION	SAMPLE ID	PID (ppm) "bagged"	RECOVERY (%)	
		No soil sampling Pushed to 32' bgs.				

NOTES: ft or ' = feet bgs = below ground surface * = Indicates Sample Submitted for Laboratory Analysis

Tetra Tech EM Inc.
250 W. Court St., Suite 200W
Cincinnati, Ohio 45202

PROJECT NAME: Ohio EPA- Mullins	DRILLING COMPANY: Jersey West	BOREHOLE #: SB17	SHEET: 2 of 3
PROJECT NUMBER: 103S171417	RIG TYPE: Direct Push	ELEVATION: Not Measured	
SITE NAME: Mullins Rubber Products	BORING TYPE: MW <input type="checkbox"/> PIEZO <input type="checkbox"/> SB <input checked="" type="checkbox"/>	TOTAL DEPTH: 51.5' bgs	
COUNTY: Montgomery	DRILLER: Caprioni	STATIC WATER LEVEL:	
CITY, STATE: Dayton, Ohio	LOGGED BY: VF	BOREHOLE DIAMETER: 6"	
PROJECT MANAGER: Guy Montfort	SAMPLING METHOD: Continuous Core	START DATE: 3/29/13	FINISH DATE: 3/29/13

SUBSURFACE PROFILE			SAMPLE			WELL CONSTRUCTION
DEPTH (FT)	LITHOLOGY	DESCRIPTION	SAMPLE ID	PID (ppm) "bagged"	RECOVERY (%)	
30						
35		Groundwater sample from 32-36' bgs				
40		No soil sampling Pushed to 47.5' bgs.				
45						
50		Groundwater sample from 47.5-51.5' bgs.				

NOTES: ft or '= feet bgs = below ground surface * = Indicates Sample Submitted for Laboratory Analysis

Tetra Tech EM Inc.
250 W. Court St., Suite 200W
Cincinnati, Ohio 45202

PROJECT NAME: Ohio EPA- Mullins	DRILLING COMPANY: Jersey West	BOREHOLE #: SB17	SHEET: 3 of 3
PROJECT NUMBER: 103S171417	RIG TYPE: Direct Push	ELEVATION: Not Measured	
SITE NAME: Mullins Rubber Products	BORING TYPE: MW <input type="checkbox"/> PIEZO <input type="checkbox"/> SB <input checked="" type="checkbox"/>	TOTAL DEPTH: 51.5' bgs	
COUNTY: Montgomery	DRILLER: Caprioni	STATIC WATER LEVEL:	
CITY, STATE: Dayton, Ohio	LOGGED BY: VF	BOREHOLE DIAMETER: 6"	
PROJECT MANAGER: Guy Montfort	SAMPLING METHOD: Continuous Core	START DATE: 3/29/13	FINISH DATE: 3/29/13

SUBSURFACE PROFILE			SAMPLE			WELL CONSTRUCTION
DEPTH (FT)	LITHOLOGY	DESCRIPTION	SAMPLE ID	PID (ppm) "bagged"	RECOVERY (%)	
55						Borehole completed at 51.5' bgs Borehole backfilled with cuttings and bentonite
60						
65						
70						
75						

NOTES: ft or '= feet bgs = below ground surface * = Indicates Sample Submitted for Laboratory Analysis

ATTACHMENT 2

Laboratory Analytical Reports



Field Chain-of-Custody Record

Page 1 of 1
Cooler Temp: 200
(Lab only)

11328

REGULAR Status

☒ RUSH Status
24 hr TAT

130334

[illegible]

Failure to complete all portions of this form may delay analysis. Please fill in this form *LEGIBLY*.

Relinquished by: (Signature)	Time / Date	Received by: (Signature)	Time / Date	Ship to: ALS Environmental 4388 Glendale - Milford Road Cincinnati, Ohio 45242 Phone: 513.733.5336 Fax: 513.733.5347
Relinquished by: (Signature)	Time / Date	Received by: (Signature)	Time / Date	
Relinquished by: (Signature)	Time / Date	Received by: (Signature)	Time / Date	



20-Mar-2013

Vicky Farmer
Tetra Tech EM Inc.
250 W. Court St., Suite 200W
Cincinnati, OH 45202

Tel: (513) 333-3666
Fax: (513) 241-0354

Re: Mullins

Work Order: **1303341**

Dear Vicky,

ALS Environmental received 3 samples on 19-Mar-2013 08:35 PM for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested.

QC sample results for this data met laboratory specifications. Any exceptions are noted in the Case Narrative, or noted with qualifiers in the report or QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Laboratory Group. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 16.

If you have any questions regarding this report, please feel free to contact me.

Sincerely,

Chris Gibson

Electronically approved by: Chris Gibson

Chris Gibson
Project Manager

ADDRESS 4388 Glendale Milford Rd Cincinnati, Ohio 45242- | PHONE (513) 733-5336 | FAX (513) 733-5347

ALS GROUP USA, CORP. Part of the ALS Group An ALS Limited Company

Environmental

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

Client: Tetra Tech EM Inc.
Project: Mullins
Work Order: 1303341**Work Order Sample Summary**

<u>Lab Samp ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Tag Number</u>	<u>Collection Date</u>	<u>Date Received</u>	<u>Hold</u>
1303341-01	GW1-47-52	Water		3/19/2013 11:28	3/19/2013 20:35	<input type="checkbox"/>
1303341-02	GW1-32-37	Water		3/19/2013 12:02	3/19/2013 20:35	<input type="checkbox"/>
1303341-03	GW2-37-42	Water		3/19/2013 18:32	3/19/2013 20:35	<input type="checkbox"/>

Client: Tetra Tech EM Inc.**Project:** Mullins**Work Order:** 1303341**Case Narrative**

The analytical data provided relates directly to the samples received by ALS Laboratory Group and for only the analyses requested.

QC sample results for this data met laboratory specifications. Any exceptions are noted in the Case Narrative, or noted with qualifiers in the report or QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Laboratory Group. Samples will be disposed in 30 days unless storage arrangements are made.

ALS Environmental

Date: 20-Mar-13

Client: Tetra Tech EM Inc.
Project: Mullins
Sample ID: GW1-47-52
Collection Date: 3/19/2013 11:28 AM

Work Order: 1303341
Lab ID: 1303341-01
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
VOLATILE ORGANIC COMPOUNDS			SW8260			Analyst: LAK
1,1,1,2-Tetrachloroethane	ND		5.0	µg/L	1	3/20/2013 12:34 PM
1,1,1-Trichloroethane	ND		5.0	µg/L	1	3/20/2013 12:34 PM
1,1,2,2-Tetrachloroethane	ND		5.0	µg/L	1	3/20/2013 12:34 PM
1,1,2-Trichloroethane	ND		5.0	µg/L	1	3/20/2013 12:34 PM
1,1-Dichloroethane	ND		5.0	µg/L	1	3/20/2013 12:34 PM
1,1-Dichloroethene	ND		5.0	µg/L	1	3/20/2013 12:34 PM
1,1-Dichloropropene	ND		5.0	µg/L	1	3/20/2013 12:34 PM
1,2,3-Trichlorobenzene	ND		5.0	µg/L	1	3/20/2013 12:34 PM
1,2,3-Trichloropropane	ND		5.0	µg/L	1	3/20/2013 12:34 PM
1,2,4-Trichlorobenzene	ND		5.0	µg/L	1	3/20/2013 12:34 PM
1,2,4-Trimethylbenzene	ND		5.0	µg/L	1	3/20/2013 12:34 PM
1,2-Dibromo-3-chloropropane	ND		5.0	µg/L	1	3/20/2013 12:34 PM
1,2-Dibromoethane	ND		5.0	µg/L	1	3/20/2013 12:34 PM
1,2-Dichlorobenzene	ND		5.0	µg/L	1	3/20/2013 12:34 PM
1,2-Dichloroethane	ND		5.0	µg/L	1	3/20/2013 12:34 PM
1,2-Dichloropropane	ND		5.0	µg/L	1	3/20/2013 12:34 PM
1,3,5-Trimethylbenzene	ND		5.0	µg/L	1	3/20/2013 12:34 PM
1,3-Dichlorobenzene	ND		5.0	µg/L	1	3/20/2013 12:34 PM
1,3-Dichloropropane	ND		5.0	µg/L	1	3/20/2013 12:34 PM
1,4-Dichlorobenzene	ND		5.0	µg/L	1	3/20/2013 12:34 PM
2,2-Dichloropropane	ND		5.0	µg/L	1	3/20/2013 12:34 PM
2-Butanone	ND		5.0	µg/L	1	3/20/2013 12:34 PM
2-Chlorotoluene	ND		5.0	µg/L	1	3/20/2013 12:34 PM
2-Hexanone	ND		5.0	µg/L	1	3/20/2013 12:34 PM
4-Chlorotoluene	ND		5.0	µg/L	1	3/20/2013 12:34 PM
4-Methyl-2-pentanone	ND		5.0	µg/L	1	3/20/2013 12:34 PM
Acetone	8.3		5.0	µg/L	1	3/20/2013 12:34 PM
Benzene	ND		5.0	µg/L	1	3/20/2013 12:34 PM
Bromobenzene	ND		5.0	µg/L	1	3/20/2013 12:34 PM
Bromochloromethane	ND		5.0	µg/L	1	3/20/2013 12:34 PM
Bromodichloromethane	ND		5.0	µg/L	1	3/20/2013 12:34 PM
Bromoform	ND		5.0	µg/L	1	3/20/2013 12:34 PM
Bromomethane	ND		5.0	µg/L	1	3/20/2013 12:34 PM
Carbon disulfide	ND		5.0	µg/L	1	3/20/2013 12:34 PM
Carbon tetrachloride	ND		5.0	µg/L	1	3/20/2013 12:34 PM
Chlorobenzene	ND		5.0	µg/L	1	3/20/2013 12:34 PM
Chloroethane	ND		5.0	µg/L	1	3/20/2013 12:34 PM
Chloroform	ND		5.0	µg/L	1	3/20/2013 12:34 PM
Chloromethane	ND		5.0	µg/L	1	3/20/2013 12:34 PM

Note:

ALS Environmental

Date: 20-Mar-13

Client: Tetra Tech EM Inc.
Project: Mullins
Sample ID: GW1-47-52
Collection Date: 3/19/2013 11:28 AM

Work Order: 1303341
Lab ID: 1303341-01
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
cis-1,2-Dichloroethene	ND		5.0	µg/L	1	3/20/2013 12:34 PM
cis-1,3-Dichloropropene	ND		5.0	µg/L	1	3/20/2013 12:34 PM
Dibromochloromethane	ND		5.0	µg/L	1	3/20/2013 12:34 PM
Dibromomethane	ND		5.0	µg/L	1	3/20/2013 12:34 PM
Dichlorodifluoromethane	ND		5.0	µg/L	1	3/20/2013 12:34 PM
Ethylbenzene	ND		5.0	µg/L	1	3/20/2013 12:34 PM
Hexachlorobutadiene	ND		5.0	µg/L	1	3/20/2013 12:34 PM
Isopropylbenzene	ND		5.0	µg/L	1	3/20/2013 12:34 PM
m,p-Xylene	ND		5.0	µg/L	1	3/20/2013 12:34 PM
Methyl tert-butyl ether	ND		5.0	µg/L	1	3/20/2013 12:34 PM
Methylene chloride	ND		5.0	µg/L	1	3/20/2013 12:34 PM
Naphthalene	ND		5.0	µg/L	1	3/20/2013 12:34 PM
n-Butylbenzene	ND		5.0	µg/L	1	3/20/2013 12:34 PM
n-Propylbenzene	ND		5.0	µg/L	1	3/20/2013 12:34 PM
o-Xylene	ND		5.0	µg/L	1	3/20/2013 12:34 PM
p-Isopropyltoluene	ND		5.0	µg/L	1	3/20/2013 12:34 PM
sec-Butylbenzene	ND		5.0	µg/L	1	3/20/2013 12:34 PM
Styrene	ND		5.0	µg/L	1	3/20/2013 12:34 PM
tert-Butylbenzene	ND		5.0	µg/L	1	3/20/2013 12:34 PM
Tetrachloroethene	ND		5.0	µg/L	1	3/20/2013 12:34 PM
Toluene	ND		5.0	µg/L	1	3/20/2013 12:34 PM
trans-1,2-Dichloroethene	ND		5.0	µg/L	1	3/20/2013 12:34 PM
trans-1,3-Dichloropropene	ND		5.0	µg/L	1	3/20/2013 12:34 PM
Trichloroethene	ND		5.0	µg/L	1	3/20/2013 12:34 PM
Trichlorofluoromethane	ND		5.0	µg/L	1	3/20/2013 12:34 PM
Vinyl chloride	ND		2.0	µg/L	1	3/20/2013 12:34 PM
Xylenes, Total	ND		5.0	µg/L	1	3/20/2013 12:34 PM
Surr: 4-Bromofluorobenzene	94.2		61-131	%REC	1	3/20/2013 12:34 PM
Surr: Dibromofluoromethane	96.7		87-126	%REC	1	3/20/2013 12:34 PM
Surr: Toluene-d8	99.5		84-111	%REC	1	3/20/2013 12:34 PM

Note:

ALS Environmental

Date: 20-Mar-13

Client: Tetra Tech EM Inc.

Project: Mullins

Work Order: 1303341

Sample ID: GW1-32-37

Lab ID: 1303341-02

Collection Date: 3/19/2013 12:02 PM

Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
VOLATILE ORGANIC COMPOUNDS			SW8260			Analyst: LAK
1,1,1,2-Tetrachloroethane	ND		5.0	µg/L	1	3/20/2013 01:04 PM
1,1,1-Trichloroethane	ND		5.0	µg/L	1	3/20/2013 01:04 PM
1,1,2,2-Tetrachloroethane	ND		5.0	µg/L	1	3/20/2013 01:04 PM
1,1,2-Trichloroethane	ND		5.0	µg/L	1	3/20/2013 01:04 PM
1,1-Dichloroethane	ND		5.0	µg/L	1	3/20/2013 01:04 PM
1,1-Dichloroethene	ND		5.0	µg/L	1	3/20/2013 01:04 PM
1,1-Dichloropropene	ND		5.0	µg/L	1	3/20/2013 01:04 PM
1,2,3-Trichlorobenzene	ND		5.0	µg/L	1	3/20/2013 01:04 PM
1,2,3-Trichloropropane	ND		5.0	µg/L	1	3/20/2013 01:04 PM
1,2,4-Trichlorobenzene	ND		5.0	µg/L	1	3/20/2013 01:04 PM
1,2,4-Trimethylbenzene	ND		5.0	µg/L	1	3/20/2013 01:04 PM
1,2-Dibromo-3-chloropropane	ND		5.0	µg/L	1	3/20/2013 01:04 PM
1,2-Dibromoethane	ND		5.0	µg/L	1	3/20/2013 01:04 PM
1,2-Dichlorobenzene	ND		5.0	µg/L	1	3/20/2013 01:04 PM
1,2-Dichloroethane	ND		5.0	µg/L	1	3/20/2013 01:04 PM
1,2-Dichloropropane	ND		5.0	µg/L	1	3/20/2013 01:04 PM
1,3,5-Trimethylbenzene	ND		5.0	µg/L	1	3/20/2013 01:04 PM
1,3-Dichlorobenzene	ND		5.0	µg/L	1	3/20/2013 01:04 PM
1,3-Dichloropropane	ND		5.0	µg/L	1	3/20/2013 01:04 PM
1,4-Dichlorobenzene	ND		5.0	µg/L	1	3/20/2013 01:04 PM
2,2-Dichloropropane	ND		5.0	µg/L	1	3/20/2013 01:04 PM
2-Butanone	ND		5.0	µg/L	1	3/20/2013 01:04 PM
2-Chlorotoluene	ND		5.0	µg/L	1	3/20/2013 01:04 PM
2-Hexanone	ND		5.0	µg/L	1	3/20/2013 01:04 PM
4-Chlorotoluene	ND		5.0	µg/L	1	3/20/2013 01:04 PM
4-Methyl-2-pentanone	ND		5.0	µg/L	1	3/20/2013 01:04 PM
Acetone	17		5.0	µg/L	1	3/20/2013 01:04 PM
Benzene	ND		5.0	µg/L	1	3/20/2013 01:04 PM
Bromobenzene	ND		5.0	µg/L	1	3/20/2013 01:04 PM
Bromochloromethane	ND		5.0	µg/L	1	3/20/2013 01:04 PM
Bromodichloromethane	ND		5.0	µg/L	1	3/20/2013 01:04 PM
Bromoform	ND		5.0	µg/L	1	3/20/2013 01:04 PM
Bromomethane	ND		5.0	µg/L	1	3/20/2013 01:04 PM
Carbon disulfide	ND		5.0	µg/L	1	3/20/2013 01:04 PM
Carbon tetrachloride	ND		5.0	µg/L	1	3/20/2013 01:04 PM
Chlorobenzene	ND		5.0	µg/L	1	3/20/2013 01:04 PM
Chloroethane	ND		5.0	µg/L	1	3/20/2013 01:04 PM
Chloroform	ND		5.0	µg/L	1	3/20/2013 01:04 PM
Chloromethane	ND		5.0	µg/L	1	3/20/2013 01:04 PM

Note:

ALS Environmental

Date: 20-Mar-13

Client: Tetra Tech EM Inc.

Project: Mullins

Work Order: 1303341

Sample ID: GW1-32-37

Lab ID: 1303341-02

Collection Date: 3/19/2013 12:02 PM

Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
cis-1,2-Dichloroethene	ND		5.0	µg/L	1	3/20/2013 01:04 PM
cis-1,3-Dichloropropene	ND		5.0	µg/L	1	3/20/2013 01:04 PM
Dibromochloromethane	ND		5.0	µg/L	1	3/20/2013 01:04 PM
Dibromomethane	ND		5.0	µg/L	1	3/20/2013 01:04 PM
Dichlorodifluoromethane	ND		5.0	µg/L	1	3/20/2013 01:04 PM
Ethylbenzene	ND		5.0	µg/L	1	3/20/2013 01:04 PM
Hexachlorobutadiene	ND		5.0	µg/L	1	3/20/2013 01:04 PM
Isopropylbenzene	ND		5.0	µg/L	1	3/20/2013 01:04 PM
m,p-Xylene	ND		5.0	µg/L	1	3/20/2013 01:04 PM
Methyl tert-butyl ether	ND		5.0	µg/L	1	3/20/2013 01:04 PM
Methylene chloride	ND		5.0	µg/L	1	3/20/2013 01:04 PM
Naphthalene	ND		5.0	µg/L	1	3/20/2013 01:04 PM
n-Butylbenzene	ND		5.0	µg/L	1	3/20/2013 01:04 PM
n-Propylbenzene	ND		5.0	µg/L	1	3/20/2013 01:04 PM
o-Xylene	ND		5.0	µg/L	1	3/20/2013 01:04 PM
p-Isopropyltoluene	ND		5.0	µg/L	1	3/20/2013 01:04 PM
sec-Butylbenzene	ND		5.0	µg/L	1	3/20/2013 01:04 PM
Styrene	ND		5.0	µg/L	1	3/20/2013 01:04 PM
tert-Butylbenzene	ND		5.0	µg/L	1	3/20/2013 01:04 PM
Tetrachloroethene	ND		5.0	µg/L	1	3/20/2013 01:04 PM
Toluene	ND		5.0	µg/L	1	3/20/2013 01:04 PM
trans-1,2-Dichloroethene	ND		5.0	µg/L	1	3/20/2013 01:04 PM
trans-1,3-Dichloropropene	ND		5.0	µg/L	1	3/20/2013 01:04 PM
Trichloroethene	ND		5.0	µg/L	1	3/20/2013 01:04 PM
Trichlorofluoromethane	ND		5.0	µg/L	1	3/20/2013 01:04 PM
Vinyl chloride	ND		2.0	µg/L	1	3/20/2013 01:04 PM
Xylenes, Total	ND		5.0	µg/L	1	3/20/2013 01:04 PM
Surr: 4-Bromofluorobenzene	92.9		61-131	%REC	1	3/20/2013 01:04 PM
Surr: Dibromofluoromethane	98.5		87-126	%REC	1	3/20/2013 01:04 PM
Surr: Toluene-d8	96.8		84-111	%REC	1	3/20/2013 01:04 PM

Note:

ALS Environmental

Date: 20-Mar-13

Client: Tetra Tech EM Inc.

Project: Mullins

Work Order: 1303341

Sample ID: GW2-37-42

Lab ID: 1303341-03

Collection Date: 3/19/2013 06:32 PM

Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
VOLATILE ORGANIC COMPOUNDS			SW8260			Analyst: LAK
1,1,1,2-Tetrachloroethane	ND		5.0	µg/L	1	3/20/2013 01:34 PM
1,1,1-Trichloroethane	ND		5.0	µg/L	1	3/20/2013 01:34 PM
1,1,2,2-Tetrachloroethane	ND		5.0	µg/L	1	3/20/2013 01:34 PM
1,1,2-Trichloroethane	ND		5.0	µg/L	1	3/20/2013 01:34 PM
1,1-Dichloroethane	ND		5.0	µg/L	1	3/20/2013 01:34 PM
1,1-Dichloroethene	ND		5.0	µg/L	1	3/20/2013 01:34 PM
1,1-Dichloropropene	ND		5.0	µg/L	1	3/20/2013 01:34 PM
1,2,3-Trichlorobenzene	ND		5.0	µg/L	1	3/20/2013 01:34 PM
1,2,3-Trichloropropane	ND		5.0	µg/L	1	3/20/2013 01:34 PM
1,2,4-Trichlorobenzene	ND		5.0	µg/L	1	3/20/2013 01:34 PM
1,2,4-Trimethylbenzene	ND		5.0	µg/L	1	3/20/2013 01:34 PM
1,2-Dibromo-3-chloropropane	ND		5.0	µg/L	1	3/20/2013 01:34 PM
1,2-Dibromoethane	ND		5.0	µg/L	1	3/20/2013 01:34 PM
1,2-Dichlorobenzene	ND		5.0	µg/L	1	3/20/2013 01:34 PM
1,2-Dichloroethane	ND		5.0	µg/L	1	3/20/2013 01:34 PM
1,2-Dichloropropane	ND		5.0	µg/L	1	3/20/2013 01:34 PM
1,3,5-Trimethylbenzene	ND		5.0	µg/L	1	3/20/2013 01:34 PM
1,3-Dichlorobenzene	ND		5.0	µg/L	1	3/20/2013 01:34 PM
1,3-Dichloropropane	ND		5.0	µg/L	1	3/20/2013 01:34 PM
1,4-Dichlorobenzene	ND		5.0	µg/L	1	3/20/2013 01:34 PM
2,2-Dichloropropane	ND		5.0	µg/L	1	3/20/2013 01:34 PM
2-Butanone	ND		5.0	µg/L	1	3/20/2013 01:34 PM
2-Chlorotoluene	ND		5.0	µg/L	1	3/20/2013 01:34 PM
2-Hexanone	ND		5.0	µg/L	1	3/20/2013 01:34 PM
4-Chlorotoluene	ND		5.0	µg/L	1	3/20/2013 01:34 PM
4-Methyl-2-pentanone	ND		5.0	µg/L	1	3/20/2013 01:34 PM
Acetone	14		5.0	µg/L	1	3/20/2013 01:34 PM
Benzene	ND		5.0	µg/L	1	3/20/2013 01:34 PM
Bromobenzene	ND		5.0	µg/L	1	3/20/2013 01:34 PM
Bromochloromethane	ND		5.0	µg/L	1	3/20/2013 01:34 PM
Bromodichloromethane	ND		5.0	µg/L	1	3/20/2013 01:34 PM
Bromoform	ND		5.0	µg/L	1	3/20/2013 01:34 PM
Bromomethane	ND		5.0	µg/L	1	3/20/2013 01:34 PM
Carbon disulfide	ND		5.0	µg/L	1	3/20/2013 01:34 PM
Carbon tetrachloride	ND		5.0	µg/L	1	3/20/2013 01:34 PM
Chlorobenzene	ND		5.0	µg/L	1	3/20/2013 01:34 PM
Chloroethane	ND		5.0	µg/L	1	3/20/2013 01:34 PM
Chloroform	ND		5.0	µg/L	1	3/20/2013 01:34 PM
Chloromethane	ND		5.0	µg/L	1	3/20/2013 01:34 PM

Note:

ALS Environmental

Date: 20-Mar-13

Client: Tetra Tech EM Inc.

Project: Mullins

Sample ID: GW2-37-42

Collection Date: 3/19/2013 06:32 PM

Work Order: 1303341

Lab ID: 1303341-03

Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
cis-1,2-Dichloroethene	ND		5.0	µg/L	1	3/20/2013 01:34 PM
cis-1,3-Dichloropropene	ND		5.0	µg/L	1	3/20/2013 01:34 PM
Dibromochloromethane	ND		5.0	µg/L	1	3/20/2013 01:34 PM
Dibromomethane	ND		5.0	µg/L	1	3/20/2013 01:34 PM
Dichlorodifluoromethane	ND		5.0	µg/L	1	3/20/2013 01:34 PM
Ethylbenzene	ND		5.0	µg/L	1	3/20/2013 01:34 PM
Hexachlorobutadiene	ND		5.0	µg/L	1	3/20/2013 01:34 PM
Isopropylbenzene	ND		5.0	µg/L	1	3/20/2013 01:34 PM
m,p-Xylene	ND		5.0	µg/L	1	3/20/2013 01:34 PM
Methyl tert-butyl ether	ND		5.0	µg/L	1	3/20/2013 01:34 PM
Methylene chloride	ND		5.0	µg/L	1	3/20/2013 01:34 PM
Naphthalene	ND		5.0	µg/L	1	3/20/2013 01:34 PM
n-Butylbenzene	ND		5.0	µg/L	1	3/20/2013 01:34 PM
n-Propylbenzene	ND		5.0	µg/L	1	3/20/2013 01:34 PM
o-Xylene	ND		5.0	µg/L	1	3/20/2013 01:34 PM
p-Isopropyltoluene	ND		5.0	µg/L	1	3/20/2013 01:34 PM
sec-Butylbenzene	ND		5.0	µg/L	1	3/20/2013 01:34 PM
Styrene	ND		5.0	µg/L	1	3/20/2013 01:34 PM
tert-Butylbenzene	ND		5.0	µg/L	1	3/20/2013 01:34 PM
Tetrachloroethene	80		5.0	µg/L	1	3/20/2013 01:34 PM
Toluene	ND		5.0	µg/L	1	3/20/2013 01:34 PM
trans-1,2-Dichloroethene	ND		5.0	µg/L	1	3/20/2013 01:34 PM
trans-1,3-Dichloropropene	ND		5.0	µg/L	1	3/20/2013 01:34 PM
Trichloroethene	6.3		5.0	µg/L	1	3/20/2013 01:34 PM
Trichlorofluoromethane	ND		5.0	µg/L	1	3/20/2013 01:34 PM
Vinyl chloride	ND		2.0	µg/L	1	3/20/2013 01:34 PM
Xylenes, Total	ND		5.0	µg/L	1	3/20/2013 01:34 PM
Surr: 4-Bromofluorobenzene	96.6		61-131	%REC	1	3/20/2013 01:34 PM
Surr: Dibromofluoromethane	101		87-126	%REC	1	3/20/2013 01:34 PM
Surr: Toluene-d8	100		84-111	%REC	1	3/20/2013 01:34 PM

Note:

ALS Environmental

Date: 20-Mar-13

Client: Tetra Tech EM Inc.

Work Order: 1303341

Project: Mullins

QC BATCH REPORT

Batch ID: **R97814**

Instrument ID: **VMS1**

Method: **SW8260**

MBLK		Sample ID: MBLK-R97814			Units: µg/L		Analysis Date: 3/20/2013 11:04 AM			
Client ID:		Run ID: VMS1_130320A			SeqNo: 581085		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	ND	5.0								
1,1,1-Trichloroethane	ND	5.0								
1,1,2,2-Tetrachloroethane	ND	5.0								
1,1,2-Trichloroethane	ND	5.0								
1,1-Dichloroethane	ND	5.0								
1,1-Dichloroethene	ND	5.0								
1,1-Dichloropropene	ND	5.0								
1,2,3-Trichlorobenzene	ND	5.0								
1,2,3-Trichloropropane	ND	5.0								
1,2,4-Trichlorobenzene	ND	5.0								
1,2,4-Trimethylbenzene	ND	5.0								
1,2-Dibromo-3-chloropropane	ND	5.0								
1,2-Dibromoethane	ND	5.0								
1,2-Dichlorobenzene	ND	5.0								
1,2-Dichloroethane	ND	5.0								
1,2-Dichloropropane	ND	5.0								
1,3,5-Trimethylbenzene	ND	5.0								
1,3-Dichlorobenzene	ND	5.0								
1,3-Dichloropropane	ND	5.0								
1,4-Dichlorobenzene	ND	5.0								
2,2-Dichloropropane	ND	5.0								
2-Butanone	ND	5.0								
2-Chlorotoluene	ND	5.0								
2-Hexanone	ND	5.0								
4-Chlorotoluene	ND	5.0								
4-Methyl-2-pentanone	ND	5.0								
Acetone	ND	5.0								
Benzene	ND	5.0								
Bromobenzene	ND	5.0								
Bromochloromethane	ND	5.0								
Bromodichloromethane	ND	5.0								
Bromoform	ND	5.0								
Bromomethane	ND	5.0								
Carbon disulfide	ND	5.0								
Carbon tetrachloride	ND	5.0								
Chlorobenzene	ND	5.0								
Chloroethane	ND	5.0								
Chloroform	ND	5.0								
Chloromethane	ND	5.0								
cis-1,2-Dichloroethene	ND	5.0								
cis-1,3-Dichloropropene	ND	5.0								

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Tetra Tech EM Inc.
Work Order: 1303341
Project: Mullins

QC BATCH REPORT

Batch ID: R97814		Instrument ID: VMS1		Method: SW8260	
Dibromochloromethane	ND	5.0			
Dibromomethane	ND	5.0			
Dichlorodifluoromethane	ND	5.0			
Ethylbenzene	ND	5.0			
Hexachlorobutadiene	ND	5.0			
Isopropylbenzene	ND	5.0			
m,p-Xylene	ND	5.0			
Methyl tert-butyl ether	ND	5.0			
Methylene chloride	ND	5.0			
Naphthalene	ND	5.0			
n-Butylbenzene	ND	5.0			
n-Propylbenzene	ND	5.0			
o-Xylene	ND	5.0			
p-Isopropyltoluene	ND	5.0			
sec-Butylbenzene	ND	5.0			
Styrene	ND	5.0			
tert-Butylbenzene	ND	5.0			
Tetrachloroethene	ND	5.0			
Toluene	ND	5.0			
trans-1,2-Dichloroethene	ND	5.0			
trans-1,3-Dichloropropene	ND	5.0			
Trichloroethene	ND	5.0			
Trichlorofluoromethane	ND	5.0			
Vinyl chloride	ND	2.0			
Xylenes, Total	ND	5.0			
<i>Surr: 4-Bromofluorobenzene</i>	48.02	0	50	0	96 61-131 0
<i>Surr: Dibromofluoromethane</i>	48.72	0	50	0	97.4 87-126 0
<i>Surr: Toluene-d8</i>	50.2	0	50	0	100 84-111 0

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Tetra Tech EM Inc.
 Work Order: 1303341
 Project: Mullins

QC BATCH REPORT

Batch ID: **R97814** Instrument ID: **VMS1** Method: **SW8260**

LCS		Sample ID: LCS-R97814				Units: µg/L		Analysis Date: 3/20/2013 08:35 AM		
Client ID:		Run ID: VMS1_130320A				SeqNo: 581080		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	52.11	5.0	50	0	104	48.4-140	0			
1,1-Dichloroethene	47.02	5.0	50	0	94	45.5-150	0			
1,2-Dichloroethane	53.66	5.0	50	0	107	46.5-141	0			
1,3-Dichlorobenzene	49.7	5.0	50	0	99.4	42.5-133	0			
1,4-Dichlorobenzene	47.3	5.0	50	0	94.6	38.9-136	0			
Benzene	49.85	5.0	50	0	99.7	50.7-134	0			
Carbon tetrachloride	52.48	5.0	50	0	105	45.5-143	0			
Chlorobenzene	48.62	5.0	50	0	97.2	45-133	0			
Chloroform	49.47	5.0	50	0	98.9	52.4-136	0			
cis-1,2-Dichloroethene	49.49	5.0	50	0	99	49.7-138	0			
Ethylbenzene	48.89	5.0	50	0	97.8	37.8-145	0			
m,p-Xylene	97.99	5.0	100	0	98	25.1-163	0			
Styrene	51.81	5.0	50	0	104	26.3-172	0			
Tetrachloroethene	49.42	5.0	50	0	98.8	37.3-139	0			
Toluene	49.42	5.0	50	0	98.8	44-135	0			
Trichloroethene	51.58	5.0	50	0	103	46.9-134	0			
Surr: 4-Bromofluorobenzene	49.72	0	50	0	99.4	61-131	0			
Surr: Dibromofluoromethane	50.41	0	50	0	101	87-126	0			
Surr: Toluene-d8	51.11	0	50	0	102	84-111	0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Tetra Tech EM Inc.
 Work Order: 1303341
 Project: Mullins

QC BATCH REPORT

Batch ID: **R97814** Instrument ID: **VMS1** Method: **SW8260**

MS		Sample ID: 1303188-02A MS				Units: µg/L		Analysis Date: 3/20/2013 11:34 AM		
Client ID:		Run ID: VMS1_130320A				SeqNo: 581086		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	51.82	5.0	50	0	104	47.4-141	0			
1,1-Dichloroethene	48.85	5.0	50	0	97.7	56.3-140	0			
1,2-Dichloroethane	53.43	5.0	50	0	107	50.1-139	0			
1,3-Dichlorobenzene	51.46	5.0	50	0	103	53-127	0			
1,4-Dichlorobenzene	50.08	5.0	50	0	100	53.4-129	0			
Benzene	49.85	5.0	50	0	99.7	52.8-136	0			
Carbon tetrachloride	53.12	5.0	50	0	106	48.1-141	0			
Chlorobenzene	50.65	5.0	50	0	101	52.4-132	0			
Chloroform	50.49	5.0	50	0	101	52.9-136	0			
cis-1,2-Dichloroethene	51.42	5.0	50	0	103	63.5-128	0			
Ethylbenzene	51.05	5.0	50	0	102	46.5-146	0			
m,p-Xylene	101.7	5.0	100	0	102	38.2-167	0			
Styrene	52.12	5.0	50	0	104	20.9-184	0			
Tetrachloroethene	51.72	5.0	50	0	103	55.2-134	0			
Toluene	50.09	5.0	50	0	100	45.1-138	0			
Trichloroethene	51.21	5.0	50	0	102	52.8-133	0			
Surr: 4-Bromofluorobenzene	50.49	0	50	0	101	61-131	0			
Surr: Dibromofluoromethane	50.57	0	50	0	101	87-126	0			
Surr: Toluene-d8	50.66	0	50	0	101	84-111	0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Tetra Tech EM Inc.
 Work Order: 1303341
 Project: Mullins

QC BATCH REPORT

Batch ID: **R97814** Instrument ID: **VMS1** Method: **SW8260**

MSD		Sample ID: 1303188-02A MSD				Units: µg/L		Analysis Date: 3/20/2013 12:04 PM		
Client ID:		Run ID: VMS1_130320A				SeqNo: 581087		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	54.11	5.0	50	0	108	47.4-141	51.82	4.32	20	
1,1-Dichloroethene	49.25	5.0	50	0	98.5	56.3-140	48.85	0.815	20	
1,2-Dichloroethane	53.88	5.0	50	0	108	50.1-139	53.43	0.839	20	
1,3-Dichlorobenzene	53.27	5.0	50	0	107	53-127	51.46	3.46	20	
1,4-Dichlorobenzene	51.67	5.0	50	0	103	53.4-129	50.08	3.13	20	
Benzene	50.35	5.0	50	0	101	52.8-136	49.85	0.998	20	
Carbon tetrachloride	55.32	5.0	50	0	111	48.1-141	53.12	4.06	20	
Chlorobenzene	50.57	5.0	50	0	101	52.4-132	50.65	0.158	20	
Chloroform	51.54	5.0	50	0	103	52.9-136	50.49	2.06	20	
cis-1,2-Dichloroethene	51.38	5.0	50	0	103	63.5-128	51.42	0.0778	20	
Ethylbenzene	52.69	5.0	50	0	105	46.5-146	51.05	3.16	20	
m,p-Xylene	104.4	5.0	100	0	104	38.2-167	101.7	2.64	20	
Styrene	53.65	5.0	50	0	107	20.9-184	52.12	2.89	20	
Tetrachloroethene	53.54	5.0	50	0	107	55.2-134	51.72	3.46	20	
Toluene	51.37	5.0	50	0	103	45.1-138	50.09	2.52	20	
Trichloroethene	52.34	5.0	50	0	105	52.8-133	51.21	2.18	20	
Surr: 4-Bromofluorobenzene	49.49	0	50	0	99	61-131	50.49	2		
Surr: Dibromofluoromethane	50.79	0	50	0	102	87-126	50.57	0.434		
Surr: Toluene-d8	50.88	0	50	0	102	84-111	50.66	0.433		

The following samples were analyzed in this batch:

1303341-01A	1303341-02A	1303341-03A
-------------	-------------	-------------

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Tetra Tech EM Inc.
Project: Mullins
WorkOrder: 1303341

QUALIFIERS, ACRONYMS, UNITS

<u>Qualifier</u>	<u>Description</u>
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte detected below quantitation limit
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL

<u>Acronym</u>	<u>Description</u>
DUP	Method Duplicate
E	EPA Method
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MBLK	Method Blank
MDL	Method Detection Limit
MQL	Method Quantitation Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PDS	Post Digestion Spike
PQL	Practical Quantitation Limit
SDL	Sample Detection Limit
SW	SW-846 Method

<u>Units Reported</u>	<u>Description</u>
µg/L	

Sample Receipt Checklist

Client Name: **TETRATECH-CINCINNATI**Date/Time Received: **19-Mar-13 20:35**Work Order: **1303341**Received by: **SLW**Checklist completed by: **J an Wilcox**

20-Mar-13

eSignature

Reviewed by: **Chris Gibson**

20-Mar-13

eSignature

Date

Matrices:

Carrier name: Client

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on shipping container/cooler?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Custody seals intact on sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Container/Temp Blank temperature in compliance?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Temperature(s)/Thermometer(s):	<u>2.0</u>		
Cooler(s)/Kit(s):			
Water - VOA vials have zero headspace?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	No VOA vials submitted <input type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
pH adjusted?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
pH adjusted by:	-		

Login Notes:

Client Contacted:

Date Contacted:

Person Contacted:

Contacted By:

Regarding:

Comments:

CorrectiveAction:

Field Chain-of-Custody Record

Page 1 of 1

11329



1303380

☐ REGULAR Status

☒ RUSH Status
24hr

Cooler Temp 2.1
(Lab only)

Date 3-20 Purchase Order No. _____ Billing Address (if different) _____
Company Name Tetra Tech _____
Address 250 W Court #100W _____
CINC OH 45202 _____
City State Zip
Person to Contact Vicky Farmer Project No. _____
Email Address Vicky.Farmer@tetratech.com Sampling Site _____
Telephone (513) 333 3666 Date/Time of Collection _____
Fax Telephone () _____ VAP ☐ Yes ☐ No

Analysis Requested

Sample Number	Site ID	Date	Time	Lab Sample Number	Preser	Sampl												No. of
	GW3-32-37	3-20-13	1340	-01	HQ	Water	X											

Notes:

Failure to complete all portions of this form may delay analysis. Please fill in this form LEGIBLY.

Relinquished by: (Signature) <u>V. Farmer</u>	Time / Date <u>1951/320</u>	Received by: (Signature) <u>[Signature]</u>	Time / Date <u>19:51</u> <u>3/20/13</u>
Relinquished by: (Signature)	Time / Date	Received by: (Signature)	Time / Date
Relinquished by: (Signature)	Time / Date	Received by: (Signature)	Time / Date

Ship to: **ALS Environmental**
4388 Glendale - Milford Road
Cincinnati, Ohio 45242
Phone: 513.733.5336
Fax: 513.733.5347

Carrier / Airbill # _____

Date / Time: _____



21-Mar-2013

Vicky Farmer
Tetra Tech EM Inc.
250 W. Court St., Suite 200W
Cincinnati, OH 45202

Tel: (513) 333-3666
Fax: (513) 241-0354

Re: Mullins

Work Order: **1303380**

Dear Vicky,

ALS Environmental received 1 sample on 20-Mar-2013 07:51 PM for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested.

QC sample results for this data met laboratory specifications. Any exceptions are noted in the Case Narrative, or noted with qualifiers in the report or QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Laboratory Group. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 12.

If you have any questions regarding this report, please feel free to contact me.

Sincerely,

Chris Gibson

Electronically approved by: Chris Gibson

Chris Gibson
Project Manager

ADDRESS 4388 Glendale Milford Rd Cincinnati, Ohio 45242- | PHONE (513) 733-5336 | FAX (513) 733-5347

ALS GROUP USA, CORP. Part of the ALS Group An ALS Limited Company

Environmental

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

Client: Tetra Tech EM Inc.
Project: Mullins
Work Order: 1303380

Work Order Sample Summary

<u>Lab Samp ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Tag Number</u>	<u>Collection Date</u>	<u>Date Received</u>	<u>Hold</u>
1303380-01	GW3-32-37	Water		3/20/2013 13:40	3/20/2013 19:51	<input type="checkbox"/>

Client: Tetra Tech EM Inc.**Project:** Mullins**Work Order:** 1303380**Case Narrative**

The analytical data provided relates directly to the samples received by ALS Laboratory Group and for only the analyses requested.

QC sample results for this data met laboratory specifications. Any exceptions are noted in the Case Narrative, or noted with qualifiers in the report or QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Laboratory Group. Samples will be disposed in 30 days unless storage arrangements are made.

ALS Environmental

Date: 21-Mar-13

Client: Tetra Tech EM Inc.

Project: Mullins

Work Order: 1303380

Sample ID: GW3-32-37

Lab ID: 1303380-01

Collection Date: 3/20/2013 01:40 PM

Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
VOLATILE ORGANIC COMPOUNDS			SW8260			Analyst: LAK
1,1,1,2-Tetrachloroethane	ND		5.0	µg/L	1	3/21/2013 09:32 AM
1,1,1-Trichloroethane	ND		5.0	µg/L	1	3/21/2013 09:32 AM
1,1,2,2-Tetrachloroethane	ND		5.0	µg/L	1	3/21/2013 09:32 AM
1,1,2-Trichloroethane	ND		5.0	µg/L	1	3/21/2013 09:32 AM
1,1-Dichloroethane	ND		5.0	µg/L	1	3/21/2013 09:32 AM
1,1-Dichloroethene	ND		5.0	µg/L	1	3/21/2013 09:32 AM
1,1-Dichloropropene	ND		5.0	µg/L	1	3/21/2013 09:32 AM
1,2,3-Trichlorobenzene	ND		5.0	µg/L	1	3/21/2013 09:32 AM
1,2,3-Trichloropropane	ND		5.0	µg/L	1	3/21/2013 09:32 AM
1,2,4-Trichlorobenzene	ND		5.0	µg/L	1	3/21/2013 09:32 AM
1,2,4-Trimethylbenzene	ND		5.0	µg/L	1	3/21/2013 09:32 AM
1,2-Dibromo-3-chloropropane	ND		5.0	µg/L	1	3/21/2013 09:32 AM
1,2-Dibromoethane	ND		5.0	µg/L	1	3/21/2013 09:32 AM
1,2-Dichlorobenzene	ND		5.0	µg/L	1	3/21/2013 09:32 AM
1,2-Dichloroethane	ND		5.0	µg/L	1	3/21/2013 09:32 AM
1,2-Dichloropropane	ND		5.0	µg/L	1	3/21/2013 09:32 AM
1,3,5-Trimethylbenzene	ND		5.0	µg/L	1	3/21/2013 09:32 AM
1,3-Dichlorobenzene	ND		5.0	µg/L	1	3/21/2013 09:32 AM
1,3-Dichloropropane	ND		5.0	µg/L	1	3/21/2013 09:32 AM
1,4-Dichlorobenzene	ND		5.0	µg/L	1	3/21/2013 09:32 AM
2,2-Dichloropropane	ND		5.0	µg/L	1	3/21/2013 09:32 AM
2-Butanone	ND		5.0	µg/L	1	3/21/2013 09:32 AM
2-Chlorotoluene	ND		5.0	µg/L	1	3/21/2013 09:32 AM
2-Hexanone	ND		5.0	µg/L	1	3/21/2013 09:32 AM
4-Chlorotoluene	ND		5.0	µg/L	1	3/21/2013 09:32 AM
4-Methyl-2-pentanone	ND		5.0	µg/L	1	3/21/2013 09:32 AM
Acetone	ND		5.0	µg/L	1	3/21/2013 09:32 AM
Benzene	ND		5.0	µg/L	1	3/21/2013 09:32 AM
Bromobenzene	ND		5.0	µg/L	1	3/21/2013 09:32 AM
Bromochloromethane	ND		5.0	µg/L	1	3/21/2013 09:32 AM
Bromodichloromethane	ND		5.0	µg/L	1	3/21/2013 09:32 AM
Bromoform	ND		5.0	µg/L	1	3/21/2013 09:32 AM
Bromomethane	ND		5.0	µg/L	1	3/21/2013 09:32 AM
Carbon disulfide	ND		5.0	µg/L	1	3/21/2013 09:32 AM
Carbon tetrachloride	ND		5.0	µg/L	1	3/21/2013 09:32 AM
Chlorobenzene	ND		5.0	µg/L	1	3/21/2013 09:32 AM
Chloroethane	ND		5.0	µg/L	1	3/21/2013 09:32 AM
Chloroform	ND		5.0	µg/L	1	3/21/2013 09:32 AM
Chloromethane	ND		5.0	µg/L	1	3/21/2013 09:32 AM

Note:

ALS Environmental

Date: 21-Mar-13

Client: Tetra Tech EM Inc.

Project: Mullins

Work Order: 1303380

Sample ID: GW3-32-37

Lab ID: 1303380-01

Collection Date: 3/20/2013 01:40 PM

Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
cis-1,2-Dichloroethene	ND		5.0	µg/L	1	3/21/2013 09:32 AM
cis-1,3-Dichloropropene	ND		5.0	µg/L	1	3/21/2013 09:32 AM
Dibromochloromethane	ND		5.0	µg/L	1	3/21/2013 09:32 AM
Dibromomethane	ND		5.0	µg/L	1	3/21/2013 09:32 AM
Dichlorodifluoromethane	ND		5.0	µg/L	1	3/21/2013 09:32 AM
Ethylbenzene	ND		5.0	µg/L	1	3/21/2013 09:32 AM
Hexachlorobutadiene	ND		5.0	µg/L	1	3/21/2013 09:32 AM
Isopropylbenzene	ND		5.0	µg/L	1	3/21/2013 09:32 AM
m,p-Xylene	ND		5.0	µg/L	1	3/21/2013 09:32 AM
Methyl tert-butyl ether	ND		5.0	µg/L	1	3/21/2013 09:32 AM
Methylene chloride	ND		5.0	µg/L	1	3/21/2013 09:32 AM
Naphthalene	ND		5.0	µg/L	1	3/21/2013 09:32 AM
n-Butylbenzene	ND		5.0	µg/L	1	3/21/2013 09:32 AM
n-Propylbenzene	ND		5.0	µg/L	1	3/21/2013 09:32 AM
o-Xylene	ND		5.0	µg/L	1	3/21/2013 09:32 AM
p-Isopropyltoluene	ND		5.0	µg/L	1	3/21/2013 09:32 AM
sec-Butylbenzene	ND		5.0	µg/L	1	3/21/2013 09:32 AM
Styrene	ND		5.0	µg/L	1	3/21/2013 09:32 AM
tert-Butylbenzene	ND		5.0	µg/L	1	3/21/2013 09:32 AM
Tetrachloroethene	140		5.0	µg/L	1	3/21/2013 09:32 AM
Toluene	ND		5.0	µg/L	1	3/21/2013 09:32 AM
trans-1,2-Dichloroethene	ND		5.0	µg/L	1	3/21/2013 09:32 AM
trans-1,3-Dichloropropene	ND		5.0	µg/L	1	3/21/2013 09:32 AM
Trichloroethene	24		5.0	µg/L	1	3/21/2013 09:32 AM
Trichlorofluoromethane	ND		5.0	µg/L	1	3/21/2013 09:32 AM
Vinyl chloride	ND		2.0	µg/L	1	3/21/2013 09:32 AM
Xylenes, Total	ND		5.0	µg/L	1	3/21/2013 09:32 AM
Surr: 4-Bromofluorobenzene	95.5		61-131	%REC	1	3/21/2013 09:32 AM
Surr: Dibromofluoromethane	96.0		87-126	%REC	1	3/21/2013 09:32 AM
Surr: Toluene-d8	97.3		84-111	%REC	1	3/21/2013 09:32 AM

Note:

ALS Environmental

Date: 21-Mar-13

Client: Tetra Tech EM Inc.
Work Order: 1303380
Project: Mullins

QC BATCH REPORT

Batch ID: **R97833** Instrument ID: **VMS1** Method: **SW8260**

MBLK		Sample ID: MBLK-R97833			Units: µg/L		Analysis Date: 3/21/2013 08:33 AM			
Client ID:		Run ID: VMS1_130321A			SeqNo: 581370		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	ND	5.0								
1,1,1-Trichloroethane	ND	5.0								
1,1,2,2-Tetrachloroethane	ND	5.0								
1,1,2-Trichloroethane	ND	5.0								
1,1-Dichloroethane	ND	5.0								
1,1-Dichloroethene	ND	5.0								
1,1-Dichloropropene	ND	5.0								
1,2,3-Trichlorobenzene	ND	5.0								
1,2,3-Trichloropropane	ND	5.0								
1,2,4-Trichlorobenzene	ND	5.0								
1,2,4-Trimethylbenzene	ND	5.0								
1,2-Dibromo-3-chloropropane	ND	5.0								
1,2-Dibromoethane	ND	5.0								
1,2-Dichlorobenzene	ND	5.0								
1,2-Dichloroethane	ND	5.0								
1,2-Dichloropropane	ND	5.0								
1,3,5-Trimethylbenzene	ND	5.0								
1,3-Dichlorobenzene	ND	5.0								
1,3-Dichloropropane	ND	5.0								
1,4-Dichlorobenzene	ND	5.0								
2,2-Dichloropropane	ND	5.0								
2-Butanone	ND	5.0								
2-Chlorotoluene	ND	5.0								
2-Hexanone	ND	5.0								
4-Chlorotoluene	ND	5.0								
4-Methyl-2-pentanone	ND	5.0								
Acetone	ND	5.0								
Benzene	ND	5.0								
Bromobenzene	ND	5.0								
Bromochloromethane	ND	5.0								
Bromodichloromethane	ND	5.0								
Bromoform	ND	5.0								
Bromomethane	ND	5.0								
Carbon disulfide	ND	5.0								
Carbon tetrachloride	ND	5.0								
Chlorobenzene	ND	5.0								
Chloroethane	ND	5.0								
Chloroform	ND	5.0								
Chloromethane	ND	5.0								
cis-1,2-Dichloroethene	ND	5.0								
cis-1,3-Dichloropropene	ND	5.0								

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Tetra Tech EM Inc.
Work Order: 1303380
Project: Mullins

QC BATCH REPORT

Batch ID: R97833		Instrument ID: VMS1		Method: SW8260	
Dibromochloromethane	ND	5.0			
Dibromomethane	ND	5.0			
Dichlorodifluoromethane	ND	5.0			
Ethylbenzene	ND	5.0			
Hexachlorobutadiene	ND	5.0			
Isopropylbenzene	ND	5.0			
m,p-Xylene	ND	5.0			
Methyl tert-butyl ether	ND	5.0			
Methylene chloride	ND	5.0			
Naphthalene	ND	5.0			
n-Butylbenzene	ND	5.0			
n-Propylbenzene	ND	5.0			
o-Xylene	ND	5.0			
p-Isopropyltoluene	ND	5.0			
sec-Butylbenzene	ND	5.0			
Styrene	ND	5.0			
tert-Butylbenzene	ND	5.0			
Tetrachloroethene	ND	5.0			
Toluene	ND	5.0			
trans-1,2-Dichloroethene	ND	5.0			
trans-1,3-Dichloropropene	ND	5.0			
Trichloroethene	ND	5.0			
Trichlorofluoromethane	ND	5.0			
Vinyl chloride	ND	2.0			
Xylenes, Total	ND	5.0			
<i>Surr: 4-Bromofluorobenzene</i>	47.49	0	50	0	95 61-131 0
<i>Surr: Dibromofluoromethane</i>	50.03	0	50	0	100 87-126 0
<i>Surr: Toluene-d8</i>	50.15	0	50	0	100 84-111 0

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Tetra Tech EM Inc.
 Work Order: 1303380
 Project: Mullins

QC BATCH REPORT

Batch ID: **R97833** Instrument ID: **VMS1** Method: **SW8260**

LCS	Sample ID: LCS-R97833			Units: µg/L		Analysis Date: 3/21/2013 09:03 AM				
Client ID:	Run ID: VMS1_130321A			SeqNo: 581372		Prep Date:		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	52.48	5.0	50	0	105	48.4-140		0		
1,1-Dichloroethene	42.82	5.0	50	0	85.6	45.5-150		0		
1,2-Dichloroethane	53.04	5.0	50	0	106	46.5-141		0		
1,3-Dichlorobenzene	48.49	5.0	50	0	97	42.5-133		0		
1,4-Dichlorobenzene	47.16	5.0	50	0	94.3	38.9-136		0		
Benzene	41.52	5.0	50	0	83	50.7-134		0		
Carbon tetrachloride	52.08	5.0	50	0	104	45.5-143		0		
Chlorobenzene	44.66	5.0	50	0	89.3	45-133		0		
Chloroform	46.67	5.0	50	0	93.3	52.4-136		0		
cis-1,2-Dichloroethene	45.12	5.0	50	0	90.2	49.7-138		0		
Ethylbenzene	45.29	5.0	50	0	90.6	37.8-145		0		
m,p-Xylene	93.91	5.0	100	0	93.9	25.1-163		0		
Styrene	48.75	5.0	50	0	97.5	26.3-172		0		
Tetrachloroethene	48.75	5.0	50	0	97.5	37.3-139		0		
Toluene	44.53	5.0	50	0	89.1	44-135		0		
Trichloroethene	48.12	5.0	50	0	96.2	46.9-134		0		
Surr: 4-Bromofluorobenzene	52.04	0	50	0	104	61-131		0		
Surr: Dibromofluoromethane	51.63	0	50	0	103	87-126		0		
Surr: Toluene-d8	51.09	0	50	0	102	84-111		0		

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Tetra Tech EM Inc.
 Work Order: 1303380
 Project: Mullins

QC BATCH REPORT

Batch ID: **R97833** Instrument ID: **VMS1** Method: **SW8260**

MS		Sample ID: 1303292-03B MS				Units: µg/L		Analysis Date: 3/21/2013 10:02 AM		
Client ID:		Run ID: VMS1_130321A				SeqNo: 581375		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	51.69	5.0	50	0	103	47.4-141	0			
1,1-Dichloroethene	43.79	5.0	50	0	87.6	56.3-140	0			
1,2-Dichloroethane	51.33	5.0	50	0	103	50.1-139	0			
1,3-Dichlorobenzene	51.27	5.0	50	0	103	53-127	0			
1,4-Dichlorobenzene	47.75	5.0	50	0	95.5	53.4-129	0			
Benzene	42.25	5.0	50	0	84.5	52.8-136	0			
Carbon tetrachloride	52.44	5.0	50	0	105	48.1-141	0			
Chlorobenzene	46.65	5.0	50	0	93.3	52.4-132	0			
Chloroform	48.22	5.0	50	0	96.4	52.9-136	0			
cis-1,2-Dichloroethene	46.39	5.0	50	0	92.8	63.5-128	0			
Ethylbenzene	47.51	5.0	50	0	95	46.5-146	0			
m,p-Xylene	97.15	5.0	100	0	97.2	38.2-167	0			
Styrene	44.78	5.0	50	0	89.6	20.9-184	0			
Tetrachloroethene	50.33	5.0	50	0	101	55.2-134	0			
Toluene	45.65	5.0	50	0	91.3	45.1-138	0			
Trichloroethene	48.96	5.0	50	0	97.9	52.8-133	0			
Surr: 4-Bromofluorobenzene	50.77	0	50	0	102	61-131	0			
Surr: Dibromofluoromethane	52.04	0	50	0	104	87-126	0			
Surr: Toluene-d8	51.01	0	50	0	102	84-111	0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Tetra Tech EM Inc.
 Work Order: 1303380
 Project: Mullins

QC BATCH REPORT

Batch ID: **R97833** Instrument ID: **VMS1** Method: **SW8260**

MSD		Sample ID: 1303292-03B MSD				Units: µg/L		Analysis Date: 3/21/2013 10:32 AM		
Client ID:		Run ID: VMS1_130321A				SeqNo: 581377		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	49.63	5.0	50	0	99.3	47.4-141	51.69	4.07	20	
1,1-Dichloroethene	41.13	5.0	50	0	82.3	56.3-140	43.79	6.26	20	
1,2-Dichloroethane	50.21	5.0	50	0	100	50.1-139	51.33	2.21	20	
1,3-Dichlorobenzene	46.27	5.0	50	0	92.5	53-127	51.27	10.3	20	
1,4-Dichlorobenzene	44.16	5.0	50	0	88.3	53.4-129	47.75	7.81	20	
Benzene	39.77	5.0	50	0	79.5	52.8-136	42.25	6.05	20	
Carbon tetrachloride	49.83	5.0	50	0	99.7	48.1-141	52.44	5.1	20	
Chlorobenzene	44.43	5.0	50	0	88.9	52.4-132	46.65	4.87	20	
Chloroform	46.04	5.0	50	0	92.1	52.9-136	48.22	4.63	20	
cis-1,2-Dichloroethene	44.34	5.0	50	0	88.7	63.5-128	46.39	4.52	20	
Ethylbenzene	44.35	5.0	50	0	88.7	46.5-146	47.51	6.88	20	
m,p-Xylene	90.99	5.0	100	0	91	38.2-167	97.15	6.55	20	
Styrene	42.28	5.0	50	0	84.6	20.9-184	44.78	5.74	20	
Tetrachloroethene	47.06	5.0	50	0	94.1	55.2-134	50.33	6.72	20	
Toluene	42.65	5.0	50	0	85.3	45.1-138	45.65	6.8	20	
Trichloroethene	45.54	5.0	50	0	91.1	52.8-133	48.96	7.24	20	
Surr: 4-Bromofluorobenzene	51.02	0	50	0	102	61-131	50.77	0.491		
Surr: Dibromofluoromethane	51.54	0	50	0	103	87-126	52.04	0.965		
Surr: Toluene-d8	49.22	0	50	0	98.4	84-111	51.01	3.57		

The following samples were analyzed in this batch:

1303380-01A

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

ALS Environmental

Date: 21-Mar-13

Client: Tetra Tech EM Inc.
Project: Mullins
WorkOrder: 1303380

QUALIFIERS, ACRONYMS, UNITS

<u>Qualifier</u>	<u>Description</u>
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte detected below quantitation limit
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL

<u>Acronym</u>	<u>Description</u>
DUP	Method Duplicate
E	EPA Method
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MBLK	Method Blank
MDL	Method Detection Limit
MQL	Method Quantitation Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PDS	Post Digestion Spike
PQL	Practical Quantitation Limit
SDL	Sample Detection Limit
SW	SW-846 Method

<u>Units Reported</u>	<u>Description</u>
µg/L	

Sample Receipt Checklist

Client Name: **TETRATECH-CINCINNATI**

Date/Time Received: **20-Mar-13 19:51**

Work Order: **1303380**

Received by: **SLW**

Checklist completed by: **Jan Wilcox**

21-Mar-13

Reviewed by: **Chris Gibson**

21-Mar-13

eSignature

Date

eSignature

Date

Matrices:

Carrier name: Client

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on shipping container/cooler?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Custody seals intact on sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Container/Temp Blank temperature in compliance?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Temperature(s)/Thermometer(s):	<u>2.1</u>		
Cooler(s)/Kit(s):			
Water - VOA vials have zero headspace?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	No VOA vials submitted <input type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
pH adjusted?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
pH adjusted by:	-		

Login Notes:

Client Contacted:

Date Contacted:

Person Contacted:

Contacted By:

Regarding:

Comments:

CorrectiveAction:



ב
ב
ט
ט
ת

☒ **RUSH Status**

Page _____ of _____
Cooler Temp: 21.9
(1 sh only)

[illegible]



22-Mar-2013

Vicky Farmer
Tetra Tech EM Inc.
250 W. Court St., Suite 200W
Cincinnati, OH 45202

Tel: (513) 333-3666
Fax: (513) 241-0354

Re: Mullins

Work Order: **1303411**

Dear Vicky,

ALS Environmental received 2 samples on 21-Mar-2013 for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested.

QC sample results for this data met laboratory specifications. Any exceptions are noted in the Case Narrative, or noted with qualifiers in the report or QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Laboratory Group. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 14.

If you have any questions regarding this report, please feel free to contact me.

Sincerely,

Chris Gibson

Electronically approved by: Chris Gibson

Chris Gibson
Project Manager

ADDRESS 4388 Glendale Milford Rd Cincinnati, Ohio 45242- | PHONE (513) 733-5336 | FAX (513) 733-5347

ALS GROUP USA, CORP. Part of the ALS Group An ALS Limited Company

Environmental

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

Client: Tetra Tech EM Inc.
Project: Mullins
Work Order: 1303411

Work Order Sample Summary

<u>Lab Samp ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Tag Number</u>	<u>Collection Date</u>	<u>Date Received</u>	<u>Hold</u>
1303411-01	GW7-47-52	Water		3/21/2013 18:02	3/21/2013	<input type="checkbox"/>
1303411-02	GW7-32-37	Water		3/21/2013 18:30	3/21/2013	<input type="checkbox"/>

Client: Tetra Tech EM Inc.**Project:** Mullins**Work Order:** 1303411**Case Narrative**

The analytical data provided relates directly to the samples received by ALS Laboratory Group and for only the analyses requested.

QC sample results for this data met laboratory specifications. Any exceptions are noted in the Case Narrative, or noted with qualifiers in the report or QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Laboratory Group. Samples will be disposed in 30 days unless storage arrangements are made.

ALS Environmental

Date: 22-Mar-13

Client: Tetra Tech EM Inc.

Project: Mullins

Work Order: 1303411

Sample ID: GW7-47-52

Lab ID: 1303411-01

Collection Date: 3/21/2013 06:02 PM

Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
VOLATILE ORGANIC COMPOUNDS			SW8260			Analyst: LAK
1,1,1,2-Tetrachloroethane	ND		5.0	µg/L	1	3/22/2013 12:52 PM
1,1,1-Trichloroethane	ND		5.0	µg/L	1	3/22/2013 12:52 PM
1,1,2,2-Tetrachloroethane	ND		5.0	µg/L	1	3/22/2013 12:52 PM
1,1,2-Trichloroethane	ND		5.0	µg/L	1	3/22/2013 12:52 PM
1,1-Dichloroethane	ND		5.0	µg/L	1	3/22/2013 12:52 PM
1,1-Dichloroethene	ND		5.0	µg/L	1	3/22/2013 12:52 PM
1,1-Dichloropropene	ND		5.0	µg/L	1	3/22/2013 12:52 PM
1,2,3-Trichlorobenzene	ND		5.0	µg/L	1	3/22/2013 12:52 PM
1,2,3-Trichloropropane	ND		5.0	µg/L	1	3/22/2013 12:52 PM
1,2,4-Trichlorobenzene	ND		5.0	µg/L	1	3/22/2013 12:52 PM
1,2,4-Trimethylbenzene	ND		5.0	µg/L	1	3/22/2013 12:52 PM
1,2-Dibromo-3-chloropropane	ND		5.0	µg/L	1	3/22/2013 12:52 PM
1,2-Dibromoethane	ND		5.0	µg/L	1	3/22/2013 12:52 PM
1,2-Dichlorobenzene	ND		5.0	µg/L	1	3/22/2013 12:52 PM
1,2-Dichloroethane	ND		5.0	µg/L	1	3/22/2013 12:52 PM
1,2-Dichloropropane	ND		5.0	µg/L	1	3/22/2013 12:52 PM
1,3,5-Trimethylbenzene	ND		5.0	µg/L	1	3/22/2013 12:52 PM
1,3-Dichlorobenzene	ND		5.0	µg/L	1	3/22/2013 12:52 PM
1,3-Dichloropropane	ND		5.0	µg/L	1	3/22/2013 12:52 PM
1,4-Dichlorobenzene	ND		5.0	µg/L	1	3/22/2013 12:52 PM
2,2-Dichloropropane	ND		5.0	µg/L	1	3/22/2013 12:52 PM
2-Butanone	ND		5.0	µg/L	1	3/22/2013 12:52 PM
2-Chlorotoluene	ND		5.0	µg/L	1	3/22/2013 12:52 PM
2-Hexanone	ND		5.0	µg/L	1	3/22/2013 12:52 PM
4-Chlorotoluene	ND		5.0	µg/L	1	3/22/2013 12:52 PM
4-Methyl-2-pentanone	ND		5.0	µg/L	1	3/22/2013 12:52 PM
Acetone	ND		5.0	µg/L	1	3/22/2013 12:52 PM
Benzene	ND		5.0	µg/L	1	3/22/2013 12:52 PM
Bromobenzene	ND		5.0	µg/L	1	3/22/2013 12:52 PM
Bromochloromethane	ND		5.0	µg/L	1	3/22/2013 12:52 PM
Bromodichloromethane	ND		5.0	µg/L	1	3/22/2013 12:52 PM
Bromoform	ND		5.0	µg/L	1	3/22/2013 12:52 PM
Bromomethane	ND		5.0	µg/L	1	3/22/2013 12:52 PM
Carbon disulfide	ND		5.0	µg/L	1	3/22/2013 12:52 PM
Carbon tetrachloride	ND		5.0	µg/L	1	3/22/2013 12:52 PM
Chlorobenzene	ND		5.0	µg/L	1	3/22/2013 12:52 PM
Chloroethane	ND		5.0	µg/L	1	3/22/2013 12:52 PM
Chloroform	ND		5.0	µg/L	1	3/22/2013 12:52 PM
Chloromethane	ND		5.0	µg/L	1	3/22/2013 12:52 PM

Note:

ALS Environmental

Date: 22-Mar-13

Client: Tetra Tech EM Inc.

Project: Mullins

Work Order: 1303411

Sample ID: GW7-47-52

Lab ID: 1303411-01

Collection Date: 3/21/2013 06:02 PM

Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
cis-1,2-Dichloroethene	ND		5.0	µg/L	1	3/22/2013 12:52 PM
cis-1,3-Dichloropropene	ND		5.0	µg/L	1	3/22/2013 12:52 PM
Dibromochloromethane	ND		5.0	µg/L	1	3/22/2013 12:52 PM
Dibromomethane	ND		5.0	µg/L	1	3/22/2013 12:52 PM
Dichlorodifluoromethane	ND		5.0	µg/L	1	3/22/2013 12:52 PM
Ethylbenzene	ND		5.0	µg/L	1	3/22/2013 12:52 PM
Hexachlorobutadiene	ND		5.0	µg/L	1	3/22/2013 12:52 PM
Isopropylbenzene	ND		5.0	µg/L	1	3/22/2013 12:52 PM
m,p-Xylene	ND		5.0	µg/L	1	3/22/2013 12:52 PM
Methyl tert-butyl ether	ND		5.0	µg/L	1	3/22/2013 12:52 PM
Methylene chloride	ND		5.0	µg/L	1	3/22/2013 12:52 PM
Naphthalene	ND		5.0	µg/L	1	3/22/2013 12:52 PM
n-Butylbenzene	ND		5.0	µg/L	1	3/22/2013 12:52 PM
n-Propylbenzene	ND		5.0	µg/L	1	3/22/2013 12:52 PM
o-Xylene	ND		5.0	µg/L	1	3/22/2013 12:52 PM
p-Isopropyltoluene	ND		5.0	µg/L	1	3/22/2013 12:52 PM
sec-Butylbenzene	ND		5.0	µg/L	1	3/22/2013 12:52 PM
Styrene	ND		5.0	µg/L	1	3/22/2013 12:52 PM
tert-Butylbenzene	ND		5.0	µg/L	1	3/22/2013 12:52 PM
Tetrachloroethene	27		5.0	µg/L	1	3/22/2013 12:52 PM
Toluene	ND		5.0	µg/L	1	3/22/2013 12:52 PM
trans-1,2-Dichloroethene	ND		5.0	µg/L	1	3/22/2013 12:52 PM
trans-1,3-Dichloropropene	ND		5.0	µg/L	1	3/22/2013 12:52 PM
Trichloroethene	ND		5.0	µg/L	1	3/22/2013 12:52 PM
Trichlorofluoromethane	ND		5.0	µg/L	1	3/22/2013 12:52 PM
Vinyl chloride	ND		2.0	µg/L	1	3/22/2013 12:52 PM
Xylenes, Total	ND		5.0	µg/L	1	3/22/2013 12:52 PM
Surr: 4-Bromofluorobenzene	99.1		61-131	%REC	1	3/22/2013 12:52 PM
Surr: Dibromofluoromethane	98.9		87-126	%REC	1	3/22/2013 12:52 PM
Surr: Toluene-d8	98.4		84-111	%REC	1	3/22/2013 12:52 PM

Note:

ALS Environmental

Date: 22-Mar-13

Client: Tetra Tech EM Inc.

Project: Mullins

Work Order: 1303411

Sample ID: GW7-32-37

Lab ID: 1303411-02

Collection Date: 3/21/2013 06:30 PM

Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
VOLATILE ORGANIC COMPOUNDS			SW8260			Analyst: LAK
1,1,1,2-Tetrachloroethane	ND		5.0	µg/L	1	3/22/2013 01:24 PM
1,1,1-Trichloroethane	ND		5.0	µg/L	1	3/22/2013 01:24 PM
1,1,2,2-Tetrachloroethane	ND		5.0	µg/L	1	3/22/2013 01:24 PM
1,1,2-Trichloroethane	ND		5.0	µg/L	1	3/22/2013 01:24 PM
1,1-Dichloroethane	ND		5.0	µg/L	1	3/22/2013 01:24 PM
1,1-Dichloroethene	ND		5.0	µg/L	1	3/22/2013 01:24 PM
1,1-Dichloropropene	ND		5.0	µg/L	1	3/22/2013 01:24 PM
1,2,3-Trichlorobenzene	ND		5.0	µg/L	1	3/22/2013 01:24 PM
1,2,3-Trichloropropane	ND		5.0	µg/L	1	3/22/2013 01:24 PM
1,2,4-Trichlorobenzene	ND		5.0	µg/L	1	3/22/2013 01:24 PM
1,2,4-Trimethylbenzene	ND		5.0	µg/L	1	3/22/2013 01:24 PM
1,2-Dibromo-3-chloropropane	ND		5.0	µg/L	1	3/22/2013 01:24 PM
1,2-Dibromoethane	ND		5.0	µg/L	1	3/22/2013 01:24 PM
1,2-Dichlorobenzene	ND		5.0	µg/L	1	3/22/2013 01:24 PM
1,2-Dichloroethane	ND		5.0	µg/L	1	3/22/2013 01:24 PM
1,2-Dichloropropane	ND		5.0	µg/L	1	3/22/2013 01:24 PM
1,3,5-Trimethylbenzene	ND		5.0	µg/L	1	3/22/2013 01:24 PM
1,3-Dichlorobenzene	ND		5.0	µg/L	1	3/22/2013 01:24 PM
1,3-Dichloropropane	ND		5.0	µg/L	1	3/22/2013 01:24 PM
1,4-Dichlorobenzene	ND		5.0	µg/L	1	3/22/2013 01:24 PM
2,2-Dichloropropane	ND		5.0	µg/L	1	3/22/2013 01:24 PM
2-Butanone	ND		5.0	µg/L	1	3/22/2013 01:24 PM
2-Chlorotoluene	ND		5.0	µg/L	1	3/22/2013 01:24 PM
2-Hexanone	ND		5.0	µg/L	1	3/22/2013 01:24 PM
4-Chlorotoluene	ND		5.0	µg/L	1	3/22/2013 01:24 PM
4-Methyl-2-pentanone	ND		5.0	µg/L	1	3/22/2013 01:24 PM
Acetone	ND		5.0	µg/L	1	3/22/2013 01:24 PM
Benzene	ND		5.0	µg/L	1	3/22/2013 01:24 PM
Bromobenzene	ND		5.0	µg/L	1	3/22/2013 01:24 PM
Bromochloromethane	ND		5.0	µg/L	1	3/22/2013 01:24 PM
Bromodichloromethane	ND		5.0	µg/L	1	3/22/2013 01:24 PM
Bromoform	ND		5.0	µg/L	1	3/22/2013 01:24 PM
Bromomethane	ND		5.0	µg/L	1	3/22/2013 01:24 PM
Carbon disulfide	ND		5.0	µg/L	1	3/22/2013 01:24 PM
Carbon tetrachloride	ND		5.0	µg/L	1	3/22/2013 01:24 PM
Chlorobenzene	ND		5.0	µg/L	1	3/22/2013 01:24 PM
Chloroethane	ND		5.0	µg/L	1	3/22/2013 01:24 PM
Chloroform	ND		5.0	µg/L	1	3/22/2013 01:24 PM
Chloromethane	ND		5.0	µg/L	1	3/22/2013 01:24 PM

Note:

ALS Environmental

Date: 22-Mar-13

Client: Tetra Tech EM Inc.

Project: Mullins

Sample ID: GW7-32-37

Collection Date: 3/21/2013 06:30 PM

Work Order: 1303411

Lab ID: 1303411-02

Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
cis-1,2-Dichloroethene	ND		5.0	µg/L	1	3/22/2013 01:24 PM
cis-1,3-Dichloropropene	ND		5.0	µg/L	1	3/22/2013 01:24 PM
Dibromochloromethane	ND		5.0	µg/L	1	3/22/2013 01:24 PM
Dibromomethane	ND		5.0	µg/L	1	3/22/2013 01:24 PM
Dichlorodifluoromethane	ND		5.0	µg/L	1	3/22/2013 01:24 PM
Ethylbenzene	ND		5.0	µg/L	1	3/22/2013 01:24 PM
Hexachlorobutadiene	ND		5.0	µg/L	1	3/22/2013 01:24 PM
Isopropylbenzene	ND		5.0	µg/L	1	3/22/2013 01:24 PM
m,p-Xylene	ND		5.0	µg/L	1	3/22/2013 01:24 PM
Methyl tert-butyl ether	ND		5.0	µg/L	1	3/22/2013 01:24 PM
Methylene chloride	ND		5.0	µg/L	1	3/22/2013 01:24 PM
Naphthalene	ND		5.0	µg/L	1	3/22/2013 01:24 PM
n-Butylbenzene	ND		5.0	µg/L	1	3/22/2013 01:24 PM
n-Propylbenzene	ND		5.0	µg/L	1	3/22/2013 01:24 PM
o-Xylene	ND		5.0	µg/L	1	3/22/2013 01:24 PM
p-Isopropyltoluene	ND		5.0	µg/L	1	3/22/2013 01:24 PM
sec-Butylbenzene	ND		5.0	µg/L	1	3/22/2013 01:24 PM
Styrene	ND		5.0	µg/L	1	3/22/2013 01:24 PM
tert-Butylbenzene	ND		5.0	µg/L	1	3/22/2013 01:24 PM
Tetrachloroethene	86		5.0	µg/L	1	3/22/2013 01:24 PM
Toluene	ND		5.0	µg/L	1	3/22/2013 01:24 PM
trans-1,2-Dichloroethene	ND		5.0	µg/L	1	3/22/2013 01:24 PM
trans-1,3-Dichloropropene	ND		5.0	µg/L	1	3/22/2013 01:24 PM
Trichloroethene	ND		5.0	µg/L	1	3/22/2013 01:24 PM
Trichlorofluoromethane	ND		5.0	µg/L	1	3/22/2013 01:24 PM
Vinyl chloride	ND		2.0	µg/L	1	3/22/2013 01:24 PM
Xylenes, Total	ND		5.0	µg/L	1	3/22/2013 01:24 PM
Surr: 4-Bromofluorobenzene	101		61-131	%REC	1	3/22/2013 01:24 PM
Surr: Dibromofluoromethane	96.7		87-126	%REC	1	3/22/2013 01:24 PM
Surr: Toluene-d8	99.7		84-111	%REC	1	3/22/2013 01:24 PM

Note:

ALS Environmental

Date: 22-Mar-13

Client: Tetra Tech EM Inc.
Work Order: 1303411
Project: Mullins

QC BATCH REPORT

Batch ID: **R97863** Instrument ID: **VMS2** Method: **SW8260**

MBLK		Sample ID: MBLK-R97863			Units: µg/L		Analysis Date: 3/22/2013 10:28 AM			
Client ID:		Run ID: VMS2_130322A			SeqNo: 582470		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	ND	5.0								
1,1,1-Trichloroethane	ND	5.0								
1,1,2,2-Tetrachloroethane	ND	5.0								
1,1,2-Trichloroethane	ND	5.0								
1,1-Dichloroethane	ND	5.0								
1,1-Dichloroethene	ND	5.0								
1,1-Dichloropropene	ND	5.0								
1,2,3-Trichlorobenzene	ND	5.0								
1,2,3-Trichloropropane	ND	5.0								
1,2,4-Trichlorobenzene	ND	5.0								
1,2,4-Trimethylbenzene	ND	5.0								
1,2-Dibromo-3-chloropropane	ND	5.0								
1,2-Dibromoethane	ND	5.0								
1,2-Dichlorobenzene	ND	5.0								
1,2-Dichloroethane	ND	5.0								
1,2-Dichloropropane	ND	5.0								
1,3,5-Trimethylbenzene	ND	5.0								
1,3-Dichlorobenzene	ND	5.0								
1,3-Dichloropropane	ND	5.0								
1,4-Dichlorobenzene	ND	5.0								
2,2-Dichloropropane	ND	5.0								
2-Butanone	ND	5.0								
2-Chlorotoluene	ND	5.0								
2-Hexanone	ND	5.0								
4-Chlorotoluene	ND	5.0								
4-Methyl-2-pentanone	ND	5.0								
Acetone	ND	5.0								
Benzene	ND	5.0								
Bromobenzene	ND	5.0								
Bromochloromethane	ND	5.0								
Bromodichloromethane	ND	5.0								
Bromoform	ND	5.0								
Bromomethane	ND	5.0								
Carbon disulfide	ND	5.0								
Carbon tetrachloride	ND	5.0								
Chlorobenzene	ND	5.0								
Chloroethane	ND	5.0								
Chloroform	ND	5.0								
Chloromethane	ND	5.0								
cis-1,2-Dichloroethene	ND	5.0								
cis-1,3-Dichloropropene	ND	5.0								

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Tetra Tech EM Inc.
Work Order: 1303411
Project: Mullins

QC BATCH REPORT

Batch ID: R97863		Instrument ID: VMS2		Method: SW8260	
Dibromochloromethane	ND	5.0			
Dibromomethane	ND	5.0			
Dichlorodifluoromethane	ND	5.0			
Ethylbenzene	ND	5.0			
Hexachlorobutadiene	ND	5.0			
Isopropylbenzene	ND	5.0			
m,p-Xylene	ND	5.0			
Methyl tert-butyl ether	ND	5.0			
Methylene chloride	ND	5.0			
Naphthalene	ND	5.0			
n-Butylbenzene	ND	5.0			
n-Propylbenzene	ND	5.0			
o-Xylene	ND	5.0			
p-Isopropyltoluene	ND	5.0			
sec-Butylbenzene	ND	5.0			
Styrene	ND	5.0			
tert-Butylbenzene	ND	5.0			
Tetrachloroethene	ND	5.0			
Toluene	ND	5.0			
trans-1,2-Dichloroethene	ND	5.0			
trans-1,3-Dichloropropene	ND	5.0			
Trichloroethene	ND	5.0			
Trichlorofluoromethane	ND	5.0			
Vinyl chloride	ND	2.0			
Xylenes, Total	ND	5.0			
<i>Surr: 4-Bromofluorobenzene</i>	51.76	0	50	0	104 61-131 0
<i>Surr: Dibromofluoromethane</i>	48.77	0	50	0	97.5 87-126 0
<i>Surr: Toluene-d8</i>	51.11	0	50	0	102 84-111 0

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Tetra Tech EM Inc.
 Work Order: 1303411
 Project: Mullins

QC BATCH REPORT

Batch ID: **R97863** Instrument ID: **VMS2** Method: **SW8260**

LCS		Sample ID: LCS-R97863				Units: µg/L		Analysis Date: 3/22/2013 11:00 AM		
Client ID:		Run ID: VMS2_130322A				SeqNo: 582471		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	46.92	5.0	50	0	93.8	48.4-140	0			
1,1-Dichloroethene	44.23	5.0	50	0	88.5	45.5-150	0			
1,2-Dichloroethane	46.05	5.0	50	0	92.1	46.5-141	0			
1,3-Dichlorobenzene	45.2	5.0	50	0	90.4	42.5-133	0			
1,4-Dichlorobenzene	44.21	5.0	50	0	88.4	38.9-136	0			
Benzene	45.8	5.0	50	0	91.6	50.7-134	0			
Carbon tetrachloride	46.58	5.0	50	0	93.2	45.5-143	0			
Chlorobenzene	46.17	5.0	50	0	92.3	45-133	0			
Chloroform	47.46	5.0	50	0	94.9	52.4-136	0			
cis-1,2-Dichloroethene	46.37	5.0	50	0	92.7	49.7-138	0			
Ethylbenzene	47.43	5.0	50	0	94.9	37.8-145	0			
m,p-Xylene	95.12	5.0	100	0	95.1	25.1-163	0			
Styrene	47.81	5.0	50	0	95.6	26.3-172	0			
Tetrachloroethene	47.88	5.0	50	0	95.8	37.3-139	0			
Toluene	45.93	5.0	50	0	91.9	44-135	0			
Trichloroethene	45.1	5.0	50	0	90.2	46.9-134	0			
Surr: 4-Bromofluorobenzene	48.43	0	50	0	96.9	61-131	0			
Surr: Dibromofluoromethane	51.6	0	50	0	103	87-126	0			
Surr: Toluene-d8	48.78	0	50	0	97.6	84-111	0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Tetra Tech EM Inc.
 Work Order: 1303411
 Project: Mullins

QC BATCH REPORT

Batch ID: **R97863** Instrument ID: **VMS2** Method: **SW8260**

MS		Sample ID: 1303292-05B MS				Units: µg/L		Analysis Date: 3/22/2013 11:48 AM		
Client ID:		Run ID: VMS2_130322A				SeqNo: 582472		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	49.5	5.0	50	0	99	47.4-141	0			
1,1-Dichloroethene	44.73	5.0	50	0	89.5	56.3-140	0			
1,2-Dichloroethane	45.38	5.0	50	0	90.8	50.1-139	0			
1,3-Dichlorobenzene	48.45	5.0	50	0	96.9	53-127	0			
1,4-Dichlorobenzene	46.63	5.0	50	0	93.3	53.4-129	0			
Benzene	46.06	5.0	50	0	92.1	52.8-136	0			
Carbon tetrachloride	48.41	5.0	50	0	96.8	48.1-141	0			
Chlorobenzene	46.88	5.0	50	0	93.8	52.4-132	0			
Chloroform	47.35	5.0	50	0	94.7	52.9-136	0			
cis-1,2-Dichloroethene	46.26	5.0	50	0	92.5	63.5-128	0			
Ethylbenzene	48.12	5.0	50	0	96.2	46.5-146	0			
m,p-Xylene	94.9	5.0	100	0	94.9	38.2-167	0			
Styrene	47.67	5.0	50	0	95.3	20.9-184	0			
Tetrachloroethene	49.78	5.0	50	0	99.6	55.2-134	0			
Toluene	46.42	5.0	50	0	92.8	45.1-138	0			
Trichloroethene	47.64	5.0	50	0	95.3	52.8-133	0			
Surr: 4-Bromofluorobenzene	50.31	0	50	0	101	61-131	0			
Surr: Dibromofluoromethane	51.22	0	50	0	102	87-126	0			
Surr: Toluene-d8	49.53	0	50	0	99.1	84-111	0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Tetra Tech EM Inc.

Work Order: 1303411

Project: Mullins

QC BATCH REPORT

Batch ID: **R97863**

Instrument ID: **VMS2**

Method: **SW8260**

MSD		Sample ID: 1303292-05B MSD				Units: µg/L		Analysis Date: 3/22/2013 01:56 PM		
Client ID:		Run ID: VMS2_130322A				SeqNo: 582476		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	54	5.0	50	0	108	47.4-141	49.5	8.7	20	
1,1-Dichloroethene	47.65	5.0	50	0	95.3	56.3-140	44.73	6.32	20	
1,2-Dichloroethane	50.77	5.0	50	0	102	50.1-139	45.38	11.2	20	
1,3-Dichlorobenzene	52.92	5.0	50	0	106	53-127	48.45	8.82	20	
1,4-Dichlorobenzene	51.3	5.0	50	0	103	53.4-129	46.63	9.54	20	
Benzene	51.27	5.0	50	0	103	52.8-136	46.06	10.7	20	
Carbon tetrachloride	53.38	5.0	50	0	107	48.1-141	48.41	9.77	20	
Chlorobenzene	52.43	5.0	50	0	105	52.4-132	46.88	11.2	20	
Chloroform	51.46	5.0	50	0	103	52.9-136	47.35	8.32	20	
cis-1,2-Dichloroethene	50.55	5.0	50	0	101	63.5-128	46.26	8.86	20	
Ethylbenzene	53.62	5.0	50	0	107	46.5-146	48.12	10.8	20	
m,p-Xylene	107.8	5.0	100	0	108	38.2-167	94.9	12.8	20	
Styrene	54.74	5.0	50	0	109	20.9-184	47.67	13.8	20	
Tetrachloroethene	55.4	5.0	50	0	111	55.2-134	49.78	10.7	20	
Toluene	53.23	5.0	50	0	106	45.1-138	46.42	13.7	20	
Trichloroethene	52.86	5.0	50	0	106	52.8-133	47.64	10.4	20	
Surr: 4-Bromofluorobenzene	49.31	0	50	0	98.6	61-131	50.31	2.01		
Surr: Dibromofluoromethane	49.21	0	50	0	98.4	87-126	51.22	4		
Surr: Toluene-d8	50.24	0	50	0	100	84-111	49.53	1.42		

The following samples were analyzed in this batch:

1303411-01A 1303411-02A

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Tetra Tech EM Inc.
Project: Mullins
WorkOrder: 1303411

QUALIFIERS, ACRONYMS, UNITS

<u>Qualifier</u>	<u>Description</u>
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte detected below quantitation limit
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL

<u>Acronym</u>	<u>Description</u>
DUP	Method Duplicate
E	EPA Method
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MBLK	Method Blank
MDL	Method Detection Limit
MQL	Method Quantitation Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PDS	Post Digestion Spike
PQL	Practical Quantitation Limit
SDL	Sample Detection Limit
SW	SW-846 Method

<u>Units Reported</u>	<u>Description</u>
µg/L	

Sample Receipt Checklist

Client Name: **TETRATECH-CINCINNATI**

Date/Time Received: **21-Mar-13 00:00**

Work Order: **1303411**

Received by: **SLW**

Checklist completed by: **Ann Gallagher**

22-Mar-13

Reviewed by:

eSignature

Date

eSignature

Date

Matrices:

Carrier name: Client

Shipping container/cooler in good condition? Yes ☐ No ☐ Not Present ☒

Custody seals intact on shipping container/cooler? Yes ☐ No ☐ Not Present ☒

Custody seals intact on sample bottles? Yes ☐ No ☐ Not Present ☒

Chain of custody present? Yes ☒ No ☐

Chain of custody signed when relinquished and received? Yes ☒ No ☐

Chain of custody agrees with sample labels? Yes ☒ No ☐

Samples in proper container/bottle? Yes ☒ No ☐

Sample containers intact? Yes ☒ No ☐

Sufficient sample volume for indicated test? Yes ☒ No ☐

All samples received within holding time? Yes ☒ No ☐

Container/Temp Blank temperature in compliance? Yes ☒ No ☐

Temperature(s)/Thermometer(s): 2.9 C

Cooler(s)/Kit(s):

Water - VOA vials have zero headspace? Yes ☒ No ☐ No VOA vials submitted ☐

Water - pH acceptable upon receipt? Yes ☐ No ☐ N/A ☒

pH adjusted? Yes ☐ No ☐ N/A ☒

pH adjusted by: -

Login Notes:

Client Contacted:

Date Contacted:

Person Contacted:

Contacted By:

Regarding:

Comments:

CorrectiveAction:



Field Chain-of-Custody Record

Page 1 of 1
Cooler Temp: 5.0
(Lab only)

11324

REGULAR Status

☒ **RUSH Status**

Cooler Temp: 5.0
(Lab only)[illegible]

Failure to complete all portions of this form may delay analysis. Please fill in this form *LEGIBLY*.

Relinquished by: (Signature)	Time / Date 3-28/1902	Received by: (Signature)	Time / Date 3/28/13 19:02	Ship to: ALS Environmental 4388 Glendale - Milford Road Cincinnati, Ohio 45242 Phone: 513.733.5336 Fax: 513.733.5347
Relinquished by: (Signature)	Time / Date	Received by: (Signature)	Time / Date	
Relinquished by: (Signature)	Time / Date	Received by: (Signature)	Time / Date	
				Carrier / Airbill #
				Date / Time:



29-Mar-2013

Vicky Farmer
Tetra Tech EM Inc.
250 W. Court St., Suite 200W
Cincinnati, OH 45202

Tel: (513) 333-3666
Fax: (513) 241-0354

Re: Mullins

Work Order: **1303548**

Dear Vicky,

ALS Environmental received 3 samples on 28-Mar-2013 07:02 PM for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested.

QC sample results for this data met laboratory specifications. Any exceptions are noted in the Case Narrative, or noted with qualifiers in the report or QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Laboratory Group. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 16.

If you have any questions regarding this report, please feel free to contact me.

Sincerely,

Chris Gibson

Electronically approved by: Rob Nieman

Chris Gibson
Project Manager

ADDRESS 4388 Glendale Milford Rd Cincinnati, Ohio 45242- | PHONE (513) 733-5336 | FAX (513) 733-5347

ALS GROUP USA, CORP. Part of the ALS Group An ALS Limited Company

Environmental

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

Client: Tetra Tech EM Inc.**Project:** Mullins**Work Order:** 1303548**Work Order Sample Summary**

<u>Lab Samp ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Tag Number</u>	<u>Collection Date</u>	<u>Date Received</u>	<u>Hold</u>
1303548-01	GW14-47.5-51.5	Water		3/28/2013 10:47	3/28/2013 19:02	<input type="checkbox"/>
1303548-02	GW14-32-36	Water		3/28/2013 11:11	3/28/2013 19:02	<input type="checkbox"/>
1303548-03	Purge Water Drum	Water		3/28/2013 16:15	3/28/2013 19:02	<input type="checkbox"/>

Client: Tetra Tech EM Inc.**Project:** Mullins**Work Order:** 1303548**Case Narrative**

The analytical data provided relates directly to the samples received by ALS Laboratory Group and for only the analyses requested.

QC sample results for this data met laboratory specifications. Any exceptions are noted in the Case Narrative, or noted with qualifiers in the report or QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Laboratory Group. Samples will be disposed in 30 days unless storage arrangements are made.

ALS Environmental

Date: 29-Mar-13

Client: Tetra Tech EM Inc.
Project: Mullins
Sample ID: GW14-47.5-51.5
Collection Date: 3/28/2013 10:47 AM

Work Order: 1303548
Lab ID: 1303548-01
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
VOLATILE ORGANIC COMPOUNDS			SW8260			Analyst: LAK
1,1,1,2-Tetrachloroethane	ND		5.0	µg/L	1	3/29/2013 09:53 AM
1,1,1-Trichloroethane	ND		5.0	µg/L	1	3/29/2013 09:53 AM
1,1,2,2-Tetrachloroethane	ND		5.0	µg/L	1	3/29/2013 09:53 AM
1,1,2-Trichloroethane	ND		5.0	µg/L	1	3/29/2013 09:53 AM
1,1-Dichloroethane	ND		5.0	µg/L	1	3/29/2013 09:53 AM
1,1-Dichloroethene	ND		5.0	µg/L	1	3/29/2013 09:53 AM
1,1-Dichloropropene	ND		5.0	µg/L	1	3/29/2013 09:53 AM
1,2,3-Trichlorobenzene	ND		5.0	µg/L	1	3/29/2013 09:53 AM
1,2,3-Trichloropropane	ND		5.0	µg/L	1	3/29/2013 09:53 AM
1,2,4-Trichlorobenzene	ND		5.0	µg/L	1	3/29/2013 09:53 AM
1,2,4-Trimethylbenzene	ND		5.0	µg/L	1	3/29/2013 09:53 AM
1,2-Dibromo-3-chloropropane	ND		5.0	µg/L	1	3/29/2013 09:53 AM
1,2-Dibromoethane	ND		5.0	µg/L	1	3/29/2013 09:53 AM
1,2-Dichlorobenzene	ND		5.0	µg/L	1	3/29/2013 09:53 AM
1,2-Dichloroethane	ND		5.0	µg/L	1	3/29/2013 09:53 AM
1,2-Dichloropropane	ND		5.0	µg/L	1	3/29/2013 09:53 AM
1,3,5-Trimethylbenzene	ND		5.0	µg/L	1	3/29/2013 09:53 AM
1,3-Dichlorobenzene	ND		5.0	µg/L	1	3/29/2013 09:53 AM
1,3-Dichloropropane	ND		5.0	µg/L	1	3/29/2013 09:53 AM
1,4-Dichlorobenzene	ND		5.0	µg/L	1	3/29/2013 09:53 AM
2,2-Dichloropropane	ND		5.0	µg/L	1	3/29/2013 09:53 AM
2-Butanone	ND		5.0	µg/L	1	3/29/2013 09:53 AM
2-Chlorotoluene	ND		5.0	µg/L	1	3/29/2013 09:53 AM
2-Hexanone	ND		5.0	µg/L	1	3/29/2013 09:53 AM
4-Chlorotoluene	ND		5.0	µg/L	1	3/29/2013 09:53 AM
4-Methyl-2-pentanone	ND		5.0	µg/L	1	3/29/2013 09:53 AM
Acetone	ND		5.0	µg/L	1	3/29/2013 09:53 AM
Benzene	ND		5.0	µg/L	1	3/29/2013 09:53 AM
Bromobenzene	ND		5.0	µg/L	1	3/29/2013 09:53 AM
Bromochloromethane	ND		5.0	µg/L	1	3/29/2013 09:53 AM
Bromodichloromethane	ND		5.0	µg/L	1	3/29/2013 09:53 AM
Bromoform	ND		5.0	µg/L	1	3/29/2013 09:53 AM
Bromomethane	ND		5.0	µg/L	1	3/29/2013 09:53 AM
Carbon disulfide	ND		5.0	µg/L	1	3/29/2013 09:53 AM
Carbon tetrachloride	ND		5.0	µg/L	1	3/29/2013 09:53 AM
Chlorobenzene	ND		5.0	µg/L	1	3/29/2013 09:53 AM
Chloroethane	ND		5.0	µg/L	1	3/29/2013 09:53 AM
Chloroform	ND		5.0	µg/L	1	3/29/2013 09:53 AM
Chloromethane	ND		5.0	µg/L	1	3/29/2013 09:53 AM

Note:

ALS Environmental

Date: 29-Mar-13

Client: Tetra Tech EM Inc.
Project: Mullins
Sample ID: GW14-47.5-51.5
Collection Date: 3/28/2013 10:47 AM

Work Order: 1303548
Lab ID: 1303548-01
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
cis-1,2-Dichloroethene	ND		5.0	µg/L	1	3/29/2013 09:53 AM
cis-1,3-Dichloropropene	ND		5.0	µg/L	1	3/29/2013 09:53 AM
Dibromochloromethane	ND		5.0	µg/L	1	3/29/2013 09:53 AM
Dibromomethane	ND		5.0	µg/L	1	3/29/2013 09:53 AM
Dichlorodifluoromethane	ND		5.0	µg/L	1	3/29/2013 09:53 AM
Ethylbenzene	ND		5.0	µg/L	1	3/29/2013 09:53 AM
Hexachlorobutadiene	ND		5.0	µg/L	1	3/29/2013 09:53 AM
Isopropylbenzene	ND		5.0	µg/L	1	3/29/2013 09:53 AM
m,p-Xylene	ND		5.0	µg/L	1	3/29/2013 09:53 AM
Methyl tert-butyl ether	ND		5.0	µg/L	1	3/29/2013 09:53 AM
Methylene chloride	ND		5.0	µg/L	1	3/29/2013 09:53 AM
Naphthalene	ND		5.0	µg/L	1	3/29/2013 09:53 AM
n-Butylbenzene	ND		5.0	µg/L	1	3/29/2013 09:53 AM
n-Propylbenzene	ND		5.0	µg/L	1	3/29/2013 09:53 AM
o-Xylene	ND		5.0	µg/L	1	3/29/2013 09:53 AM
p-Isopropyltoluene	ND		5.0	µg/L	1	3/29/2013 09:53 AM
sec-Butylbenzene	ND		5.0	µg/L	1	3/29/2013 09:53 AM
Styrene	ND		5.0	µg/L	1	3/29/2013 09:53 AM
tert-Butylbenzene	ND		5.0	µg/L	1	3/29/2013 09:53 AM
Tetrachloroethene	5,500		500	µg/L	100	3/29/2013 10:24 AM
Toluene	ND		5.0	µg/L	1	3/29/2013 09:53 AM
trans-1,2-Dichloroethene	ND		5.0	µg/L	1	3/29/2013 09:53 AM
trans-1,3-Dichloropropene	ND		5.0	µg/L	1	3/29/2013 09:53 AM
Trichloroethene	15		5.0	µg/L	1	3/29/2013 09:53 AM
Trichlorofluoromethane	ND		5.0	µg/L	1	3/29/2013 09:53 AM
Vinyl chloride	ND		2.0	µg/L	1	3/29/2013 09:53 AM
Xylenes, Total	ND		5.0	µg/L	1	3/29/2013 09:53 AM
Surr: 4-Bromofluorobenzene	86.4		61-131	%REC	1	3/29/2013 09:53 AM
Surr: Dibromofluoromethane	102		87-126	%REC	1	3/29/2013 09:53 AM
Surr: Toluene-d8	101		84-111	%REC	1	3/29/2013 09:53 AM

Note:

ALS Environmental

Date: 29-Mar-13

Client: Tetra Tech EM Inc.
Project: Mullins
Sample ID: GW14-32-36
Collection Date: 3/28/2013 11:11 AM

Work Order: 1303548
Lab ID: 1303548-02
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
VOLATILE ORGANIC COMPOUNDS			SW8260			Analyst: LAK
1,1,1,2-Tetrachloroethane	ND		25	µg/L	5	3/29/2013 10:53 AM
1,1,1-Trichloroethane	ND		25	µg/L	5	3/29/2013 10:53 AM
1,1,2,2-Tetrachloroethane	ND		25	µg/L	5	3/29/2013 10:53 AM
1,1,2-Trichloroethane	ND		25	µg/L	5	3/29/2013 10:53 AM
1,1-Dichloroethane	ND		25	µg/L	5	3/29/2013 10:53 AM
1,1-Dichloroethene	ND		25	µg/L	5	3/29/2013 10:53 AM
1,1-Dichloropropene	ND		25	µg/L	5	3/29/2013 10:53 AM
1,2,3-Trichlorobenzene	ND		25	µg/L	5	3/29/2013 10:53 AM
1,2,3-Trichloropropane	ND		25	µg/L	5	3/29/2013 10:53 AM
1,2,4-Trichlorobenzene	ND		25	µg/L	5	3/29/2013 10:53 AM
1,2,4-Trimethylbenzene	ND		25	µg/L	5	3/29/2013 10:53 AM
1,2-Dibromo-3-chloropropane	ND		25	µg/L	5	3/29/2013 10:53 AM
1,2-Dibromoethane	ND		25	µg/L	5	3/29/2013 10:53 AM
1,2-Dichlorobenzene	ND		25	µg/L	5	3/29/2013 10:53 AM
1,2-Dichloroethane	ND		25	µg/L	5	3/29/2013 10:53 AM
1,2-Dichloropropane	ND		25	µg/L	5	3/29/2013 10:53 AM
1,3,5-Trimethylbenzene	ND		25	µg/L	5	3/29/2013 10:53 AM
1,3-Dichlorobenzene	ND		25	µg/L	5	3/29/2013 10:53 AM
1,3-Dichloropropane	ND		25	µg/L	5	3/29/2013 10:53 AM
1,4-Dichlorobenzene	ND		25	µg/L	5	3/29/2013 10:53 AM
2,2-Dichloropropane	ND		25	µg/L	5	3/29/2013 10:53 AM
2-Butanone	ND		25	µg/L	5	3/29/2013 10:53 AM
2-Chlorotoluene	ND		25	µg/L	5	3/29/2013 10:53 AM
2-Hexanone	ND		25	µg/L	5	3/29/2013 10:53 AM
4-Chlorotoluene	ND		25	µg/L	5	3/29/2013 10:53 AM
4-Methyl-2-pentanone	ND		25	µg/L	5	3/29/2013 10:53 AM
Acetone	ND		25	µg/L	5	3/29/2013 10:53 AM
Benzene	ND		25	µg/L	5	3/29/2013 10:53 AM
Bromobenzene	ND		25	µg/L	5	3/29/2013 10:53 AM
Bromochloromethane	ND		25	µg/L	5	3/29/2013 10:53 AM
Bromodichloromethane	ND		25	µg/L	5	3/29/2013 10:53 AM
Bromoform	ND		25	µg/L	5	3/29/2013 10:53 AM
Bromomethane	ND		25	µg/L	5	3/29/2013 10:53 AM
Carbon disulfide	ND		25	µg/L	5	3/29/2013 10:53 AM
Carbon tetrachloride	ND		25	µg/L	5	3/29/2013 10:53 AM
Chlorobenzene	ND		25	µg/L	5	3/29/2013 10:53 AM
Chloroethane	ND		25	µg/L	5	3/29/2013 10:53 AM
Chloroform	ND		25	µg/L	5	3/29/2013 10:53 AM
Chloromethane	ND		25	µg/L	5	3/29/2013 10:53 AM

Note:

ALS Environmental

Date: 29-Mar-13

Client: Tetra Tech EM Inc.
Project: Mullins
Sample ID: GW14-32-36
Collection Date: 3/28/2013 11:11 AM

Work Order: 1303548
Lab ID: 1303548-02
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
cis-1,2-Dichloroethene	ND		25	µg/L	5	3/29/2013 10:53 AM
cis-1,3-Dichloropropene	ND		25	µg/L	5	3/29/2013 10:53 AM
Dibromochloromethane	ND		25	µg/L	5	3/29/2013 10:53 AM
Dibromomethane	ND		25	µg/L	5	3/29/2013 10:53 AM
Dichlorodifluoromethane	ND		25	µg/L	5	3/29/2013 10:53 AM
Ethylbenzene	ND		25	µg/L	5	3/29/2013 10:53 AM
Hexachlorobutadiene	ND		25	µg/L	5	3/29/2013 10:53 AM
Isopropylbenzene	ND		25	µg/L	5	3/29/2013 10:53 AM
m,p-Xylene	ND		25	µg/L	5	3/29/2013 10:53 AM
Methyl tert-butyl ether	ND		25	µg/L	5	3/29/2013 10:53 AM
Methylene chloride	ND		25	µg/L	5	3/29/2013 10:53 AM
Naphthalene	ND		25	µg/L	5	3/29/2013 10:53 AM
n-Butylbenzene	ND		25	µg/L	5	3/29/2013 10:53 AM
n-Propylbenzene	ND		25	µg/L	5	3/29/2013 10:53 AM
o-Xylene	ND		25	µg/L	5	3/29/2013 10:53 AM
p-Isopropyltoluene	ND		25	µg/L	5	3/29/2013 10:53 AM
sec-Butylbenzene	ND		25	µg/L	5	3/29/2013 10:53 AM
Styrene	ND		25	µg/L	5	3/29/2013 10:53 AM
tert-Butylbenzene	ND		25	µg/L	5	3/29/2013 10:53 AM
Tetrachloroethene	14,000		500	µg/L	100	3/29/2013 11:23 AM
Toluene	ND		25	µg/L	5	3/29/2013 10:53 AM
trans-1,2-Dichloroethene	ND		25	µg/L	5	3/29/2013 10:53 AM
trans-1,3-Dichloropropene	ND		25	µg/L	5	3/29/2013 10:53 AM
Trichloroethene	ND		25	µg/L	5	3/29/2013 10:53 AM
Trichlorofluoromethane	ND		25	µg/L	5	3/29/2013 10:53 AM
Vinyl chloride	ND		10	µg/L	5	3/29/2013 10:53 AM
Xylenes, Total	ND		25	µg/L	5	3/29/2013 10:53 AM
Surr: 4-Bromofluorobenzene	89.6		61-131	%REC	5	3/29/2013 10:53 AM
Surr: Dibromofluoromethane	102		87-126	%REC	5	3/29/2013 10:53 AM
Surr: Toluene-d8	96.5		84-111	%REC	5	3/29/2013 10:53 AM

Note:

ALS Environmental

Date: 29-Mar-13

Client: Tetra Tech EM Inc.
Project: Mullins
Sample ID: Purge Water Drum
Collection Date: 3/28/2013 04:15 PM

Work Order: 1303548
Lab ID: 1303548-03
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
VOLATILE ORGANIC COMPOUNDS			SW8260			Analyst: LAK
1,1,1,2-Tetrachloroethane	ND		25	µg/L	5	3/29/2013 11:53 AM
1,1,1-Trichloroethane	ND		25	µg/L	5	3/29/2013 11:53 AM
1,1,2,2-Tetrachloroethane	ND		25	µg/L	5	3/29/2013 11:53 AM
1,1,2-Trichloroethane	ND		25	µg/L	5	3/29/2013 11:53 AM
1,1-Dichloroethane	ND		25	µg/L	5	3/29/2013 11:53 AM
1,1-Dichloroethene	ND		25	µg/L	5	3/29/2013 11:53 AM
1,1-Dichloropropene	ND		25	µg/L	5	3/29/2013 11:53 AM
1,2,3-Trichlorobenzene	ND		25	µg/L	5	3/29/2013 11:53 AM
1,2,3-Trichloropropane	ND		25	µg/L	5	3/29/2013 11:53 AM
1,2,4-Trichlorobenzene	ND		25	µg/L	5	3/29/2013 11:53 AM
1,2,4-Trimethylbenzene	ND		25	µg/L	5	3/29/2013 11:53 AM
1,2-Dibromo-3-chloropropane	ND		25	µg/L	5	3/29/2013 11:53 AM
1,2-Dibromoethane	ND		25	µg/L	5	3/29/2013 11:53 AM
1,2-Dichlorobenzene	ND		25	µg/L	5	3/29/2013 11:53 AM
1,2-Dichloroethane	ND		25	µg/L	5	3/29/2013 11:53 AM
1,2-Dichloropropane	ND		25	µg/L	5	3/29/2013 11:53 AM
1,3,5-Trimethylbenzene	ND		25	µg/L	5	3/29/2013 11:53 AM
1,3-Dichlorobenzene	ND		25	µg/L	5	3/29/2013 11:53 AM
1,3-Dichloropropane	ND		25	µg/L	5	3/29/2013 11:53 AM
1,4-Dichlorobenzene	ND		25	µg/L	5	3/29/2013 11:53 AM
2,2-Dichloropropane	ND		25	µg/L	5	3/29/2013 11:53 AM
2-Butanone	ND		25	µg/L	5	3/29/2013 11:53 AM
2-Chlorotoluene	ND		25	µg/L	5	3/29/2013 11:53 AM
2-Hexanone	ND		25	µg/L	5	3/29/2013 11:53 AM
4-Chlorotoluene	ND		25	µg/L	5	3/29/2013 11:53 AM
4-Methyl-2-pentanone	ND		25	µg/L	5	3/29/2013 11:53 AM
Acetone	ND		25	µg/L	5	3/29/2013 11:53 AM
Benzene	ND		25	µg/L	5	3/29/2013 11:53 AM
Bromobenzene	ND		25	µg/L	5	3/29/2013 11:53 AM
Bromochloromethane	ND		25	µg/L	5	3/29/2013 11:53 AM
Bromodichloromethane	ND		25	µg/L	5	3/29/2013 11:53 AM
Bromoform	ND		25	µg/L	5	3/29/2013 11:53 AM
Bromomethane	ND		25	µg/L	5	3/29/2013 11:53 AM
Carbon disulfide	ND		25	µg/L	5	3/29/2013 11:53 AM
Carbon tetrachloride	ND		25	µg/L	5	3/29/2013 11:53 AM
Chlorobenzene	ND		25	µg/L	5	3/29/2013 11:53 AM
Chloroethane	ND		25	µg/L	5	3/29/2013 11:53 AM
Chloroform	ND		25	µg/L	5	3/29/2013 11:53 AM
Chloromethane	ND		25	µg/L	5	3/29/2013 11:53 AM

Note:

ALS Environmental

Date: 29-Mar-13

Client: Tetra Tech EM Inc.
Project: Mullins
Sample ID: Purge Water Drum
Collection Date: 3/28/2013 04:15 PM

Work Order: 1303548
Lab ID: 1303548-03
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
cis-1,2-Dichloroethene	ND		25	µg/L	5	3/29/2013 11:53 AM
cis-1,3-Dichloropropene	ND		25	µg/L	5	3/29/2013 11:53 AM
Dibromochloromethane	ND		25	µg/L	5	3/29/2013 11:53 AM
Dibromomethane	ND		25	µg/L	5	3/29/2013 11:53 AM
Dichlorodifluoromethane	ND		25	µg/L	5	3/29/2013 11:53 AM
Ethylbenzene	ND		25	µg/L	5	3/29/2013 11:53 AM
Hexachlorobutadiene	ND		25	µg/L	5	3/29/2013 11:53 AM
Isopropylbenzene	ND		25	µg/L	5	3/29/2013 11:53 AM
m,p-Xylene	ND		25	µg/L	5	3/29/2013 11:53 AM
Methyl tert-butyl ether	ND		25	µg/L	5	3/29/2013 11:53 AM
Methylene chloride	ND		25	µg/L	5	3/29/2013 11:53 AM
Naphthalene	ND		25	µg/L	5	3/29/2013 11:53 AM
n-Butylbenzene	ND		25	µg/L	5	3/29/2013 11:53 AM
n-Propylbenzene	ND		25	µg/L	5	3/29/2013 11:53 AM
o-Xylene	ND		25	µg/L	5	3/29/2013 11:53 AM
p-Isopropyltoluene	ND		25	µg/L	5	3/29/2013 11:53 AM
sec-Butylbenzene	ND		25	µg/L	5	3/29/2013 11:53 AM
Styrene	ND		25	µg/L	5	3/29/2013 11:53 AM
tert-Butylbenzene	ND		25	µg/L	5	3/29/2013 11:53 AM
Tetrachloroethene	200		25	µg/L	5	3/29/2013 11:53 AM
Toluene	ND		25	µg/L	5	3/29/2013 11:53 AM
trans-1,2-Dichloroethene	ND		25	µg/L	5	3/29/2013 11:53 AM
trans-1,3-Dichloropropene	ND		25	µg/L	5	3/29/2013 11:53 AM
Trichloroethene	ND		25	µg/L	5	3/29/2013 11:53 AM
Trichlorofluoromethane	ND		25	µg/L	5	3/29/2013 11:53 AM
Vinyl chloride	ND		10	µg/L	5	3/29/2013 11:53 AM
Xylenes, Total	ND		25	µg/L	5	3/29/2013 11:53 AM
Surr: 4-Bromofluorobenzene	88.8		61-131	%REC	5	3/29/2013 11:53 AM
Surr: Dibromofluoromethane	101		87-126	%REC	5	3/29/2013 11:53 AM
Surr: Toluene-d8	101		84-111	%REC	5	3/29/2013 11:53 AM

Note:

ALS Environmental

Date: 29-Mar-13

Client: Tetra Tech EM Inc.
Work Order: 1303548
Project: Mullins

QC BATCH REPORT

Batch ID: **R98038** Instrument ID: **VMS1** Method: **SW8260**

MBLK		Sample ID: MBLK-R98038			Units: µg/L		Analysis Date: 3/29/2013 09:23 AM			
Client ID:		Run ID: VMS1_130329A			SeqNo: 586693		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	ND	5.0								
1,1,1-Trichloroethane	ND	5.0								
1,1,2,2-Tetrachloroethane	ND	5.0								
1,1,2-Trichloroethane	ND	5.0								
1,1-Dichloroethane	ND	5.0								
1,1-Dichloroethene	ND	5.0								
1,1-Dichloropropene	ND	5.0								
1,2,3-Trichlorobenzene	ND	5.0								
1,2,3-Trichloropropane	ND	5.0								
1,2,4-Trichlorobenzene	ND	5.0								
1,2,4-Trimethylbenzene	ND	5.0								
1,2-Dibromo-3-chloropropane	ND	5.0								
1,2-Dibromoethane	ND	5.0								
1,2-Dichlorobenzene	ND	5.0								
1,2-Dichloroethane	ND	5.0								
1,2-Dichloropropane	ND	5.0								
1,3,5-Trimethylbenzene	ND	5.0								
1,3-Dichlorobenzene	ND	5.0								
1,3-Dichloropropane	ND	5.0								
1,4-Dichlorobenzene	ND	5.0								
2,2-Dichloropropane	ND	5.0								
2-Butanone	ND	5.0								
2-Chlorotoluene	ND	5.0								
2-Hexanone	ND	5.0								
4-Chlorotoluene	ND	5.0								
4-Methyl-2-pentanone	ND	5.0								
Acetone	ND	5.0								
Benzene	ND	5.0								
Bromobenzene	ND	5.0								
Bromochloromethane	ND	5.0								
Bromodichloromethane	ND	5.0								
Bromoform	ND	5.0								
Bromomethane	ND	5.0								
Carbon disulfide	ND	5.0								
Carbon tetrachloride	ND	5.0								
Chlorobenzene	ND	5.0								
Chloroethane	ND	5.0								
Chloroform	ND	5.0								
Chloromethane	ND	5.0								
cis-1,2-Dichloroethene	ND	5.0								
cis-1,3-Dichloropropene	ND	5.0								

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Batch ID: R98038		Instrument ID: VMS1		Method: SW8260	
Dibromochloromethane	ND	5.0			
Dibromomethane	ND	5.0			
Dichlorodifluoromethane	ND	5.0			
Ethylbenzene	ND	5.0			
Hexachlorobutadiene	ND	5.0			
Isopropylbenzene	ND	5.0			
m,p-Xylene	ND	5.0			
Methyl tert-butyl ether	ND	5.0			
Methylene chloride	ND	5.0			
Naphthalene	ND	5.0			
n-Butylbenzene	ND	5.0			
n-Propylbenzene	ND	5.0			
o-Xylene	ND	5.0			
p-Isopropyltoluene	ND	5.0			
sec-Butylbenzene	ND	5.0			
Styrene	ND	5.0			
tert-Butylbenzene	ND	5.0			
Tetrachloroethene	ND	5.0			
Toluene	ND	5.0			
trans-1,2-Dichloroethene	ND	5.0			
trans-1,3-Dichloropropene	ND	5.0			
Trichloroethene	ND	5.0			
Trichlorofluoromethane	ND	5.0			
Vinyl chloride	ND	2.0			
Xylenes, Total	ND	5.0			
Surr: 4-Bromofluorobenzene	44.8	0	50	0	89.6 61-131 0
Surr: Dibromofluoromethane	49.4	0	50	0	98.8 87-126 0
Surr: Toluene-d8	49.97	0	50	0	99.9 84-111 0

Client: Tetra Tech EM Inc.
 Work Order: 1303548
 Project: Mullins

QC BATCH REPORT

Batch ID: **R98038** Instrument ID: **VMS1** Method: **SW8260**

LCS		Sample ID: LCS-R98038				Units: µg/L		Analysis Date: 3/29/2013 07:53 AM		
Client ID:		Run ID: VMS1_130329A				SeqNo: 586690		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	50.26	5.0	50	0	101	48.4-140	0			
1,1-Dichloroethene	41.71	5.0	50	0	83.4	45.5-150	0			
1,2-Dichloroethane	49.32	5.0	50	0	98.6	46.5-141	0			
1,3-Dichlorobenzene	43.48	5.0	50	0	87	42.5-133	0			
1,4-Dichlorobenzene	43.26	5.0	50	0	86.5	38.9-136	0			
Benzene	42.94	5.0	50	0	85.9	50.7-134	0			
Carbon tetrachloride	51.18	5.0	50	0	102	45.5-143	0			
Chlorobenzene	43.62	5.0	50	0	87.2	45-133	0			
Chloroform	47.23	5.0	50	0	94.5	52.4-136	0			
cis-1,2-Dichloroethene	42.55	5.0	50	0	85.1	49.7-138	0			
Ethylbenzene	44.69	5.0	50	0	89.4	37.8-145	0			
m,p-Xylene	87.76	5.0	100	0	87.8	25.1-163	0			
Styrene	45.04	5.0	50	0	90.1	26.3-172	0			
Tetrachloroethene	45.76	5.0	50	0	91.5	37.3-139	0			
Toluene	45.52	5.0	50	0	91	44-135	0			
Trichloroethene	47.36	5.0	50	0	94.7	46.9-134	0			
Surr: 4-Bromofluorobenzene	47.11	0	50	0	94.2	61-131	0			
Surr: Dibromofluoromethane	50.49	0	50	0	101	87-126	0			
Surr: Toluene-d8	51.04	0	50	0	102	84-111	0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Tetra Tech EM Inc.
 Work Order: 1303548
 Project: Mullins

QC BATCH REPORT

Batch ID: **R98038** Instrument ID: **VMS1** Method: **SW8260**

MS		Sample ID: 1303449-02A MS				Units: µg/L		Analysis Date: 3/29/2013 08:23 AM		
Client ID:		Run ID: VMS1_130329A				SeqNo: 586691		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	53.51	5.0	50	0	107	47.4-141	0			
1,1-Dichloroethene	42.75	5.0	50	0	85.5	56.3-140	0			
1,2-Dichloroethane	51.04	5.0	50	0	102	50.1-139	0			
1,3-Dichlorobenzene	47.77	5.0	50	0	95.5	53-127	0			
1,4-Dichlorobenzene	46.03	5.0	50	0	92.1	53.4-129	0			
Benzene	45.58	5.0	50	0	91.2	52.8-136	0			
Carbon tetrachloride	55.36	5.0	50	0	111	48.1-141	0			
Chlorobenzene	47.33	5.0	50	0	94.7	52.4-132	0			
Chloroform	48.4	5.0	50	0	96.8	52.9-136	0			
cis-1,2-Dichloroethene	43.9	5.0	50	0	87.8	63.5-128	0			
Ethylbenzene	48.51	5.0	50	0	97	46.5-146	0			
m,p-Xylene	95.14	5.0	100	0	95.1	38.2-167	0			
Styrene	47.79	5.0	50	0	95.6	20.9-184	0			
Tetrachloroethene	51.52	5.0	50	0	103	55.2-134	0			
Toluene	48.12	5.0	50	0	96.2	45.1-138	0			
Trichloroethene	52.06	5.0	50	0	104	52.8-133	0			
Surr: 4-Bromofluorobenzene	45.19	0	50	0	90.4	61-131	0			
Surr: Dibromofluoromethane	51.08	0	50	0	102	87-126	0			
Surr: Toluene-d8	50.31	0	50	0	101	84-111	0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Tetra Tech EM Inc.

Work Order: 1303548

Project: Mullins

QC BATCH REPORT

Batch ID: **R98038**Instrument ID: **VMS1**Method: **SW8260**

MSD		Sample ID: 1303449-02A MSD				Units: µg/L		Analysis Date: 3/29/2013 08:53 AM		
Client ID:		Run ID: VMS1_130329A				SeqNo: 586692		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	48.89	5.0	50	0	97.8	47.4-141	53.51	9.02	20	
1,1-Dichloroethene	40.13	5.0	50	0	80.3	56.3-140	42.75	6.32	20	
1,2-Dichloroethane	49.26	5.0	50	0	98.5	50.1-139	51.04	3.55	20	
1,3-Dichlorobenzene	42.45	5.0	50	0	84.9	53-127	47.77	11.8	20	
1,4-Dichlorobenzene	40.79	5.0	50	0	81.6	53.4-129	46.03	12.1	20	
Benzene	43.13	5.0	50	0	86.3	52.8-136	45.58	5.52	20	
Carbon tetrachloride	50.24	5.0	50	0	100	48.1-141	55.36	9.7	20	
Chlorobenzene	42.81	5.0	50	0	85.6	52.4-132	47.33	10	20	
Chloroform	45.95	5.0	50	0	91.9	52.9-136	48.4	5.19	20	
cis-1,2-Dichloroethene	41.69	5.0	50	0	83.4	63.5-128	43.9	5.16	20	
Ethylbenzene	43.39	5.0	50	0	86.8	46.5-146	48.51	11.1	20	
m,p-Xylene	85.19	5.0	100	0	85.2	38.2-167	95.14	11	20	
Styrene	43.75	5.0	50	0	87.5	20.9-184	47.79	8.83	20	
Tetrachloroethene	45.85	5.0	50	0	91.7	55.2-134	51.52	11.6	20	
Toluene	45.49	5.0	50	0	91	45.1-138	48.12	5.62	20	
Trichloroethene	48.21	5.0	50	0	96.4	52.8-133	52.06	7.68	20	
Surr: 4-Bromofluorobenzene	46.3	0	50	0	92.6	61-131	45.19	2.43		
Surr: Dibromofluoromethane	50.43	0	50	0	101	87-126	51.08	1.28		
Surr: Toluene-d8	50.54	0	50	0	101	84-111	50.31	0.456		

The following samples were analyzed in this batch:

1303548-01A

1303548-02A

1303548-03A

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Tetra Tech EM Inc.
Project: Mullins
WorkOrder: 1303548

QUALIFIERS, ACRONYMS, UNITS

<u>Qualifier</u>	<u>Description</u>
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte detected below quantitation limit
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL

<u>Acronym</u>	<u>Description</u>
DUP	Method Duplicate
E	EPA Method
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MBLK	Method Blank
MDL	Method Detection Limit
MQL	Method Quantitation Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PDS	Post Digestion Spike
PQL	Practical Quantitation Limit
SDL	Sample Detection Limit
SW	SW-846 Method

<u>Units Reported</u>	<u>Description</u>
µg/L	

Sample Receipt Checklist

Client Name: **TETRATECH-CINCINNATI**Date/Time Received: **28-Mar-13 19:02**Work Order: **1303548**Received by: **SLW**Checklist completed by: Jan Wilcox

29-Mar-13

eSignature

Date

Reviewed by: Jan Wilcox

29-Mar-13

eSignature

Date

Matrices:

Carrier name: Client

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on shipping container/cooler?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Custody seals intact on sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Container/Temp Blank temperature in compliance?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Temperature(s)/Thermometer(s):	<u>5.0</u> <input type="text"/>		
Cooler(s)/Kit(s):	<input type="text"/>		
Water - VOA vials have zero headspace?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	No VOA vials submitted <input type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
pH adjusted?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
pH adjusted by:	<input type="text"/>		

Login Notes: Sample bottles for "GW1" samples are not labeled. The bottles were received in a ziplock bag with the ID written on the bag.

Client Contacted:

Date Contacted:

Person Contacted:

Contacted By:

Regarding:

Comments:

CorrectiveAction: